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ABSTRACT

This book deals with the topics of how oral language is related to reading and how the English teacher can effectively exploit this relationship. The contents of the book are papers from the 1967 NCTE spring institutes for elementary teachers and supervisors. Walter J. Moore examines the role of the reading teacher and points out the value of this book for directing inservice education in linguistics. A knowledge of psycholinguistics in relation to the teaching of elementary language arts is discussed by John B. Carroll. Jean Berko Gleason outlines recent findings on how children use language at various age levels and relates these findings to teaching practices. Wick R. Miller discusses the reading-language acquisition relationship and suggests that teaching methods are less important than the child's personal initiative. Henry J. Sustakoski summarizes recent discoveries in linguistics and illustrates their relevance for English teachers. Three types of classroom problems involving linguistics and reading are examined by David W. Reed, and the reasons for using more than one English dialect are set forth by Roger W. Shuy. The function of oral language in language learning and some ways in which it can be combined with other aspects of the linguistic program are suggested by Walter Loban. (This document previously announced as ED 029 026.) (LH)

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ORAL LANGUAGE AND READING

Papers Collected from the 1967 Spring Institutes on the Elementary Language Arts

Edited by James Walden, Indiana University

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NATIONAL COUNCIL OF TEACHERS OF ENGLISH
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FOREWORD

A growing interest in oral language and the ever-present preoccupation with reading prompted the planners of the 1967 Spring Institutes of the National Council of Teachers of English to bring together distinguished scholars to discuss problems and trends in each area. General consultants and local chairmen were selected to help participants translate the ideas into plans of action.

The director and staff coordinator wish to recognize the contributions made by the consultants and local chairmen. Their names follow:

Detroit Institute. General Consultant: Muriel Crosby, Wilmington Public Schools, Wilmington, Delaware; Local Chairman: Harry T. Hahn, Professor of Education, Oakland University, Rochester, Michigan.

Charleston Institute. General Consultant: Virginia Reid, Oakland Public Schools, Oakland, California; Local Chairman: Lorena Anderson, State Department of Education, Charleston, West Virginia.

Sacramento Institute. General Consultant: Margaret Early, Professor of Education, Syracuse University; Local Chairman: Helen Strickland, Curriculum Coordinator, Placer County Schools, Auburn, California.

I wish to express my thanks to these staff members for their valuable assistance in arranging for and conducting the institutes. Thanks go also to James R. Squire, at that time NCTE Executive Secretary, to Robert F. Hogan, present Executive Secretary, and to Eldonna L. Evertts, staff coordinator for the Spring Institutes, who all served as members of the planning committee.

James Walden
Indiana University

ORAL LANGUAGE AND READING: AN INTRODUCTORY COMMENT

Courses offered in teacher preparation institutions today do not presume to equip teachers for all the tasks in the teaching of reading. Writers in the profession have emphasized that successful teachers must become familiar with individual differences, formulate specific objectives, draw up plans for observation, acquire knowledge of available books, pay attention to vocabulary growth, and gain insight into oral reading. Whatever the list of tasks confronting them, and it is usually long, teachers must recognize the immensity of the job if they are to develop an effective and efficient program. That teachers do not always master these techniques, thereby making reading seem even more complex to the child than it needs to be, is avowed by some writers who go so far as to say that many children fail to learn because the methods used by the schools actually prevent them from learning.

Writing over a decade ago in the pages of *Elementary English,* Stahl observed:

> . . . not only must the teacher have thoroughly mastered and understood the *reading process,* but he must be prepared to interpret this process to each and every pupil, attempting to adapt the *process* to each individual's own capabilities and achievements. [italics supplied] [1]

Hence, it is necessary to consider on-the-job or inservice activities for teachers which will further develop techniques and methods which have been introduced in preservice training. Inservice education should emphasize recommended practices. *Oral Language and Reading* can help to provide such a direct emphasis. But, prior to a consideration of *Oral Language and Reading,* inservice programs must adopt a definite point of view, must

[1] Stanley Stahl, Jr., "An In-Service Approach to the Improvement of Developmental Reading Instruction," *Elementary English,* 34 (May 1957), 313.

define the role of the teacher of reading. From this viewpoint, this description, a conception of what is involved may emerge. But views are many and varied. The story is a long one, and its telling is not yet completed.

The National Committee on Reading in its 1937 report divided the responsibility for reading instruction among teachers of reading, teachers of content, and librarians. In attempting to distribute responsibility among *all* staff members of a school, this committee adopted the slogan "Every teacher a teacher of reading" and described the responsibilities that teachers of content subjects should assume toward reading instruction.[2] In the interval that has elapsed since the 1937 report appeared, this slogan has been emphasized repeatedly. Would that one could say that the slogan has made teachers of subjects aware of reading problems and of their own roles in providing reading guidance!

One reason why teachers have failed to embrace the notion that all teachers are teachers of reading is that they have *not* been clear as to why they should be. They have not seen reading related to the basic purposes of the content fields in such a way as to make clear the significance of reading problems, nor what they, as content teachers, may do to assist in solving such problems. To convince a content area teacher of his responsibility to provide guidance in reading in the area of his concern has been a task that increasingly large numbers of reading experts have had to shoulder.

But the question arises: Have they succeeded? The answer has to be "no!" Does the same fate lie ahead for those who would convince teachers that they have responsibilities with respect to linguistics? It need not be! A good deal depends on what is meant by the term "reading." To the linguist, reading may mean the "process" or, as some might put it, the "mechanical" aspects of the act. The classroom teacher, however, may be concerned with the ends of reading, the "products" or "uses" toward which he directs the efforts of pupils. On this, for example, Fries would say:

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[2] *The Teaching of Reading: A Second Report,* Thirty-sixth Yearbook of the National Society for the Study of Education, Part I (Chicago: University of Chicago Press, 1937).

> . . . The process of learning to read in one's native language is the process of transfer from the auditory signs for the language signals, which the child has already learned, to the new visual signs for the same signals.[3]

This is the first stage of reading. The second stage is accomplished when the reader's responses to the visual patterns become so automatic that the significant identifying features of the graphic shapes themselves sink below the threshold of conscious attention. The last stage of reading is reached when the reading process has become so automatic that the reader can use

> . . . reading equally with or even more fully than the live language of speech in acquiring and assimilating new experiences.[4]

Fries would declare that he has no quarrel with any of the assertions of reading experts concerning the need to make careful provision for

> . . . the cultivation of a whole array of techniques involved in understanding, thinking, reflecting, imagining, judging, evaluating, analyzing . . . reasoning, and in making emotional and social judgments.[5]

Nor would he object to efforts

> . . . to stimulate and strengthen any or all of these habits and abilities through the *use of reading*. But we certainly confuse the issue if we insist that this use of reading in stimulating and cultivating the techniques of thinking, evaluating, and so on *constitutes the reading process*. The abilities enumerated above are all abilities that are and must be developed through the *uses of language*. And it makes no essential difference whether the symbols employed in these uses of language are the sound features that come through hearing or graphic features that come through seeing. Every one of the abilities listed may be developed and has been achieved *by persons who could not read*. They are all matters of the uses of language and are not limited to the uses of reading.
>
> In the basic analysis of the nature of the reading process itself and of the precise task of learning to read we must defer consideration of the uses to which reading may be put, as well as the abilities that may be developed through reading.[6]

Some years ago the term "developmental reading" came into use; few terms used in the field have evoked so much argument

[3] Charles C. Fries, *Linguistics and Reading* (New York: Holt, Rinehart and Winston, 1963), p. 188.

[4] *Ibid.*, p. 132. [5] *Ibid.*, p. 118. [6] *Ibid.*

and discussion as this one. It was first applied when reading authorities were advocating an all-school attack on reading problems and all-school emphases on programs to prepare pupils for more mature reading. The "developmental" approach came to mean many things to many people.

For example, Kirk recognizes *mass action, differentiation,* and *integration* as phases in the reading process. Thus, in the first aspect or stage, that of *mass action,* the child seems to get an impression of the total structure of the word or groups of words, whereas, in the second stage, *differentiation,* he begins to notice the details of words. Kirk believes that at this stage the child is ready for some form of word attack, the most systematic of which is phonics. In the third stage, *integration,* the child must go beyond the detailed analysis of words, for as Kirk says:

> . . . he has learned to short-circuit many of the perceptions and associations which he had laboriously gone through earlier. The use of phonics in the second stage enabled Johnny to see the word *map,* to associate the *m* with its sound, the *a* with its sound, the *p* with its sound, and then to blend the sounds into the auditory word *map,* and finally to associate that sound with the meaning of the word. In the third and final stage, these steps follow automatically in a split second, or the in-between steps drop out and the total appearance of the word again determines the meaning just as it did in the first stage. At this point Johnny can understand the thought from a printed page without being aware of each word or the parts of each word. But until then he is not an efficient reader.[7]

William S. Gray would have it this way, and during his lifetime teachers were more prone to identify with him than with any linguist, past or present. He said:

> . . . Effective initial progress in reading results from parallel emphasis on both meanings and word recognition. One of the most significant recent trends in teaching reading is to combine, in a coordinated program, teaching techniques which formerly characterized contrasting methods. The desirability of this trend is emphasized by the results of scientific studies . . . to ensure the best results, the useful elements of the phonetic method should be combined with the high educative value of the global method.[8]

[7] Samuel A. Kirk and Winifred D. Kirk, "How Johnny Learns to Read," *Exceptional Children,* 22 (January 1956), 159.

[8] William S. Gray, *The Teaching of Reading and Writing* (Glenview, Ill.: UNESCO and Scott, Foresman, 1956), pp. 117-118.

Whatever the method, most reading people would agree with Gray in his breakdown of reading into four main stages, for each of which appropriate materials are needed. These stages are:

1. Preparing for reading, which includes activities and experiences called reading readiness.
2. Learning to read very simple materials, which includes author-prepared and pupil-teacher–prepared materials.
3. Promoting rapid progress in mastering basic reading skills.
4. Acquiring more mature reading interests and habits.

A good deal of confusion prevails as to what reading really is, who should be teaching it, and when and how. The concept and slogan "Every teacher a teacher of reading" has not gained and will not gain popular acceptance, at least insofar as today's classroom teachers are concerned. *There is little reason to believe that linguistics will have an easier time as long as exponents of various schools of linguistics endeavor to have their particular "brands" incorporated into school curricula.*

It was observed earlier that courses in teacher preparatory institutions today are not designed to do the total job of equipping teachers for the teaching of reading. One area of neglect is the relationship between oral language activities and reading skills, since few institutions provide teachers with adequate backgrounds in linguistics or psycholinguistics, or even basic instruction in oral language. However, much of promise is to be found in the inservice approach to this problem, and materials derived from the institutes of the National Council of Teachers of English can be of tremendous assistance. The 1967 Spring Institutes of NCTE brought together distinguished scholars to discuss problems and trends. Some of their papers have been compiled and edited and appear as *Oral Language and Reading.*

Here in this collection are John B. Carroll's "Psycholinguistics and the Elementary Language Arts," Jean Berko Gleason's "Language Development in Early Childhood," Wick R. Miller's "Language Acquisition and Reading," Henry Sustakoski's "Some Contributions of Linguistic Science to the Teaching of Reading," David Reed's "Linguistics and Reading, Once

More," Roger Shuy's "Locating the Switching Devices of Oral Language," and Walter Loban's "Oral Language and Learning." These papers are well suited for use in on-the-job and inservice situations wherein the goal is to prepare the teacher better for involvement in oral language activities.

The Stahl article already referred to (see note 1) offers a feasible technique for implementing oral language instruction with a group of teachers from various teaching levels and with differing backgrounds. Stahl would divide the group according to each individual teacher's stated needs in the areas involved. Such dividing would provide the unusual opportunity for diagnostic improvement of teaching skill rather than the usual general approach. Individual teaching strength can be bolstered in terms of stated need by the use of well-chosen reference materials and guided practical applications.

The point, perhaps, needs reemphasizing: the program of inservice work should be fitted to the individual teacher's deficiencies. To this point much of the argument has been directed on the proposition that all teachers *can* teach reading, and resources must be made available toward this end. But the identification of weaknesses must be specific, not general. While the intent of most inservice programs may be sound, they fall definitely far short of the effectiveness they might reach because they are too general and the emphases are either lacking or misplaced. An atmosphere must prevail in which it is appropriate and vital for the teacher to acknowledge that he is deficient in a given aspect of his work. And many teachers *are* deficient in linguistics! Once this is frankly admitted, and in the absence of threat, the deficiency can be corrected in time. The individual teacher is the key person, but the entire faculty must feel genuine concern for the reading program. With administrators, supervisors, and teachers all working toward a common goal, an understanding of linguistics can improve the teaching of reading, as the papers herein show. And for students, their pleasure and success in reading can remain with them for a lifetime.

Walter J. Moore
University of Illinois

PSYCHOLINGUISTICS AND THE ELEMENTARY LANGUAGE ARTS

JOHN B. CARROLL
Educational Testing Service

ALTHOUGH THE *term* psycholinguistics can be found in psychological literature as early as 1912, it is still comparatively young as a discipline—only about ten or fifteen years old. It has already been through birth pangs, infant strivings, childhood negativism, and the beginnings of adolescent revolt. Though it is not clear just how it will develop or what implications it will suggest for the elementary school teacher, it has attracted an enormous following among young psychologists, and its literature is growing rapidly. My own summary of the field (Carroll, 1964a) seems increasingly out of date; glimpses of things to come are to be found in recent publications by Lenneberg (1964, 1967) and Rosenberg (1965).

Facetiously, we might say that psycholinguistics is "a little psychology and a little linguistics." More seriously, it attempts to study how the individual learns linguistic systems, particularly that of his native language, and how he uses such systems in thinking and communicating. One of its major and most difficult problems is how the preschool child learns his mother tongue, with its complicated and highly sophisticated systems of sounds, words, and grammatical structures. But it is also interested in how the school child extends this knowledge of language

by increasing his vocabulary, developing more mastery of syntactical patterns, and, above all, learning to read and write.

From this description one might think that a knowledge of psycholinguistics should be a necessary part of the equipment of the elementary school teacher, concerned as she is with the growth of language ability in her charges. Yet even without such knowledge, elementary school teachers have for years been reasonably successful in teaching language to children, and I know of no research that demonstrates that general psycholinguistic knowledge makes any difference in the ability of the teacher. I am not at all sure, in fact, that Ph.D.'s in psycholinguistics would necessarily make good teachers of elementary language arts. Even if they were skilled teachers, their knowledge of psycholinguistics might not help them much; it might even confuse and hinder them. Though psycholinguistics is a young field and may eventually have to radically revise or even discard some currently accepted ideas, there are still some general observations that I think elementary school teachers should consider.

The Role of Models of Language Usage

One of the generalizations that have arisen from current theories of psycholinguistics is that the child may have a kind of built-in ability to learn his native language just by the process of observing and interacting with persons who already know and use the language. Some theorists claim that the structure of language is, in its general aspects, "wired in" to the child. At the very least, we must credit the young child of normal intelligence with a remarkable ability to acquire the structure of his native language system without direct instruction.

This being the case, the elementary language arts teacher needs to consider herself as one of the most important "models" of good speech and language usage for the child. She must do a great deal of talking and interacting with children so that they can continue the process of language acquisition started at home or in preschool. The problem is further complicated by the fact that children tend to imitate the dialect and style of speech predominant among their peers, rather than that of their teacher. All the teacher can do is hope that her own speech and

language usage can have some beneficial influence; whether it does or not will probably depend upon subtle psychological factors of which we have as yet little understanding.

Implicit in these remarks is the notion that there is such a thing as "good" speech and language usage, as opposed to the less mature or substandard speech of the child. In remarking about "good" and "less good" or "substandard" modes of speech we mean no criticism of the modes of speech that many children happen to learn from their environment; we are simply recognizing that the school may wish, and has a right, to educate children with a standard of speech that is more widely acceptable. We do have to remember, however, that the "standard speech" that the teacher should represent is for many children a more or less unfamiliar dialect, and there is something deeply disturbing about learning a dialect not one's own. Indeed, it may be much more traumatic, in some cases, than learning a foreign language, because a foreign language is usually so entirely different from the native language that it presents a sharp contrast and can be kept apart from one's native language, while learning a new dialect may require one to change deeply ingrained habits, perhaps even to divest oneself of the personality or identity associated with one's native dialect. If you think about it, you will observe that your own dialect—the way you were brought up to speak—is what sounds most natural and valid to you. Speakers of other dialects may sound strange or somehow foreign. People often resist giving up their own dialect; indeed, sometimes they are quite proud of it—like a friend of mine who rightly refuses to give up his native southern Florida accent even though he has lived and taught in northern academic circles for some years. All this may apply with double force to the child who finds he has to learn at school what is in effect a strange dialect to him.

Besides being a model herself, the teacher should have available, and choose wisely among, the various models of language, both spoken and written, that are presented throughout schooling. There are two aspects of this choice. First, there is the matter of choosing good models of language usage as opposed to less good models; if substandard models are exhibited, comments may be in order as to why they are regarded as substan-

dard and in what circumstances they may be used. Second, there is the matter of choosing models appropriate to the child's developmental level—appropriate in the sense that they are within the child's understanding and enjoyment. This is particularly true in the case of reading materials, for, as soon as he learns to read, the child has the opportunity to learn much more about his language than he would if he continued in his original nonliterate state. The matching of models of language to the child's level of understanding is actually a very complex psycholinguistic problem, involving not only the diagnosis of the child's level of competence but also the careful measurement of the difficulty of verbal materials. Thus, it involves both sophisticated forms of educational testing and sophisticated ways of measuring different aspects of language materials that are presented to children. It would be nice if every elementary language arts teacher could be an expert in these forms of measurement, but obviously few teachers will have the time or opportunity to acquire such technical skill, let alone apply it. About all that we can expect is that the teacher will be able to use diagnostic testing instruments and readability indices developed by research specialists and to make wise decisions based on their use.

The Psychological Primacy of the Spoken Form of Languages

For some years, linguistic scientists have been urging that in some important sense the spoken form of a language has primacy over the written form. There has been much misunderstanding about this among teachers and certain other groups—notably among literary scholars. Current thinking in psycholinguistics throws new light on the problem, suggesting that neither speech nor writing really has "primacy," although speech comes closer to it.

Confusion has arisen from several sources. Often "primacy" has been confused with "importance." Certainly, the mastery of the written form of language has been more important in the school curriculum than mastery of the spoken language, and rightly so. Many children, when they come to school, have already attained a considerable competence in the spoken language, and it remains to teach them reading and writing. (Neverthe-

less, we must enter a plea for attaching an almost equal importance to continuing the child's education in the use of the spoken language, for he needs to perfect his skills in listening and speaking as much as those in reading and writing.)

Furthermore, many have been prompted to observe that speech is relatively transitory in nature—a word is spoken and it is gone into the air—while written language has a more permanent character. They observe also that written language is usually exhibited in a more "perfected" form than speech, with "better" models of language usage available in written documents than in spoken discourse.

Clarification comes, I think, from the distinction that has been drawn in psycholinguistics between "competence" and "performance," or between what is actually learned and the manifestation of that learning in behavior. When the child learns his language, what is actually learned is a very complicated set of habits that can be assumed to exist as dispositions of his nervous system; these habits or dispositions are, of course, inaccessible to direct observation. The only way we can know about them, even inferentially, is through the analysis of the speaker's "performance"—i.e., his use of them in talking or understanding, or even in reading and writing.

A mature speaker of a language tends to speak according to certain patterns—*as if* he were following certain rules. The task of the linguist is to determine as precisely as possible what these rules would have to be if they had to be used in the production of "well-formed" sentences. This tendency to speak according to rules that could be explicitly formulated is summed up in the notion of the "competence" of the native speaker of a language. We cannot say that this competence is what the speaker "knows" about his language, for he is usually unaware of using any rules as he speaks. I prefer to think of the "rules" as acquired habits that underlie speech. A large proportion of at least the shorter utterances of mature speakers of a language are "well-formed" grammatically in the sense that they (a) conform to general rules that could be formulated and (b) are accepted as meaningful and grammatical by other speakers of the language. In this sense they are "perfect performances." But not every utterance is "well-formed" in this sense. Many utterances are in-

complete or arbitrarily terminated; others may be concatenations of fragments of different sentences. Walter Loban (1963) and Ruth Strickland (1962) call the concatenations "mazes" and show that one aspect of child language development is the decrease, over the years, of the tendency to speak in such mazes.

Speaking in mazes is probably an overt manifestation of a self-editing process that gradually becomes more automatic and covert as the child grows older. In writing, the primary instrument for editing is the eraser or the blue pencil (or their equivalents); with effort, the writer can eventually give you "clean copy" without exhibiting the dirty linen he had to wash to produce it. This is the reason that written models of language often seem to be better than spoken models.

But underlying either speaking or writing is the aforementioned "competence," which consists of unobservable habits that the speaker has acquired. Note, however, that those habits are first acquired (at least in normal children) in learning to utter and understand spoken language; only later can they be manifested in written form. Even when the individual becomes literate, it is most probable that his writing behavior is based on speech behavior. Silent reading of a printed message involves decoding the message into some form of covert spoken behavior or "inner speech," and that in turn, if the message is to be understood, doubtless depends on an underlying competence in the grammatical and semantic rules of the language. It is in this sense that the spoken language has psychological primacy over the written language.

One aspect of this matter comes up in the teaching of the relation between speech sounds and their written representations. There are about forty-two basic sounds of English, called phonemes, that allow us to hear the distinctions between spoken words. Over the centuries our English system of orthography has been wrestling with this, as well as with changes in the sounds and inflectional systems of the language, with the result that, as we all know, our spellings do not show exact correspondences with sounds. To be sure, it is possible to set up rules whereby we can rather accurately predict how a word will be pronounced from a knowledge of its spelling or, as Paul Hanna and his colleagues (1964) have shown, how a word will be spelled

from a knowledge of its sounds, though the rules required to do this are more complex than in the first case. Because of the complexities of the reading and spelling problems of English speaking school children, it seems imperative for teachers to become as competent as possible in the systematic study of the sound system and its relation to English orthography. They would do well to start by studying Robert Hall's *Sound and Spelling in English* (1961) or C. C. Fries' *Linguistics and Reading* (1963).

The primacy of speech over writing has another important implication for the English teacher: if the child speaks correctly, he is more likely to be able to write correctly. The major effort in teaching "correct" usage in writing should therefore be expended on teaching correct *speech* habits. This is most important in teaching the various "grammatical" usages that cause trouble, like "are not" for "ain't," "he doesn't" for "he don't," and "Mary and I did" for "me and Mary did." But it would also be applicable in the teaching of spelling. Pupils' failure to correctly spell words like "except" (often spelled "excep") or to distinguish properly between "effect" and "affect" is often due to a failure to hear and pronounce these words correctly.

The Arbitrariness of Language Conventions

Even though a large part of instruction in English is quite properly pointed towards getting the child's speech and writing to conform to certain standards, it is nevertheless important to realize that the standards are themselves essentially arbitrary, arrived at only by an analysis of accepted usage. Words themselves are arbitrary symbols. Except for historical reasons, there is no particular reason why a cat should be called *cat* or a dog *dog*. It is purely arbitrary that English requires us to form plurals of nouns and third person present tense singulars of verbs by suffixing to the base word the morpheme (-Z) (actualized as either /-s/, /-z/, or /-əz/, depending upon the final sound of the base word). It is also arbitrary that English requires us to put the object after the verb in a normal declarative sentence (*Helen threw the ball* rather than, say, *Helen the ball threw*). Finally, arbitrariness is characteristic of those aspects of language we group under "usage," i.e., those variations in pro-

nunciation, grammatical form, and choice of words that distinguish different levels and varieties of speech.

It should be made plain to the child that it is generally fruitless to search for "reasons" why certain usages are more approved among educated people than others. Though the development of a language does not necessarily follow any particular logic, the child must understand that effective communication, even creativity in language, depends on a basic adherence to the accepted conventions. It is obviously neither effective nor creative to call dogs *cats* or cats *dogs*. Poetry that contains phrases like "a grief ago" is creative and effective because it depends on (while departing from) conventional semantic rules. The child should also understand that his choice of standard, substandard, or dialect forms creates an effect that he may want to control. In some situations it is more effective to say "That isn't necessarily the case" where in other situations one would prefer "It ain't necessarily so." For better or worse, many people judge a person by the kind of language he uses—even though it is often a false and unreliable indicator. The levels of usage in language —ranging from "formal educated speech" to various forms of class and substandard dialects—are a sociological phenomenon that has to be recognized by the schools.

Although I have suggested that it is vain to search for logic in language usage, we can sometimes explain that usage by reference to psycholinguistic theories. One of the ideas that has come from recent work in psycholinguistics is that there is a difference between *deep* structure and *surface* structure in grammar. Take a sentence like *I am here*. This is the surface structure or the actualization of something that may symbolized as *ME—BE—HERE*. There is some evidence, that is, that an "underlying" form of *I* is something like *ME* (and an underlying form of *am* is *BE*). For reasons that we do not very well understand, it is possible that the sentence *It's me* represents an actualization of an underlying *SOMETHING—BE—ME* in which *ME* has come to be actualized as *me* rather than *I*. (A similar phenomenon occurs in French, where *C'est moi* is the accepted form rather than *C'est je*.)

Taking Account of the Audience

It is trite to remark that one of the major uses of language is communication. It is not at all clear, however, that school children are adequately aware that, in order to communicate effectively, one must take account of his audience and particularly of the problems of the audience in understanding exactly what is in the mind of the speaker.

Obviously, language which is incoherent or poorly phrased will be difficult for anybody to understand. But even though the speaker or writer may think that what he is saying is perfectly coherent and intelligible, it may actually be capable of more than one interpretation. A famous example is *They are flying planes,* which admits of at least three interpretations: (1) They (the pilots) are doing something, namely flying planes; (2) They (those objects over there) are planes that are flying; and (3) They (those objects) are planes that can be flown, i.e., planes that are for flying. Normally, of course, the surrounding context will indicate which meaning is intended, but this is not always the case. According to recent research by Flavell (1966), young children are not normally very skilled in taking into account what kinds of information their audiences need; they are likely to convey information as they themselves perceive it, without realizing those aspects of the situation that are likely to be perceived differently, or not at all, by the audience. For example, if a child is taught a simple game which he is then asked to teach to a blindfolded adult, he is likely to try to explain some aspects of the game by pointing rather than with words. Although Flavell finds that the ability to take the audience's attributes into account develops with age, he is convinced that this ability needs to be specifically taught in the school curriculum. The language arts would seem to be the proper place.

The Teaching of Grammar

In this discussion I will assume that it has been established that in the speech and writing of children there are errors that are truly grammatical in the sense that linguistic performance does not conform to the rules for sentence generation. It is hard to believe that this is actually the case for *spoken* expression,

because native speakers of a language do not ordinarily speak ungrammatically. If one hears them speaking sentence fragments, or mazes of disconnected phrases, this may be accounted for either by the normal deletion rules that are applicable in ordinary conversation (e.g., in answering the question *What's your name?* one can reply simply *John* rather than the "complete sentence" *My name is John*) or by the overt editing processes we have mentioned previously. Occasionally, it is true, there are grammatical "errors" where, say, a singular verb is used with a plural verb, or where two coordinated phrases fail to exhibit parallel grammatical construction, but most of these may be attributed to limitations of memory span or of proper self-editing. Rarely does the school child not possess the basic grammatical competence that underlies performance.

Apparently the problem in teaching the child to write grammatically is one of teaching him that the conventions of expository writing demand more stringent observance of grammatical rules than ordinary speech. Thus we do not literally teach grammar, for the pupil already knows this; rather, we teach the special conventions and standards of written expression. Perhaps one way to do this is to present, side by side, examples of acceptable spoken expression that are "ungrammatical" by strict written standards and the acceptable written forms that would be derived from such spoken expressions. Some pupils will be able, from such presentations, to infer what rules will have to be followed in going from spoken to written expression; others will have to be taught those rules. How much the teaching of those rules necessitates using the terminology of formal grammar is an area that still requires some careful research.

I believe, however, that if the teaching of writing is considered from the point of view stated here—namely, that the problem is one of showing how writing conventions differ from those of speech—the teaching will be more effective than it has been under the doctrine that we must teach "grammar."

There is one more suggestion from recent psycholinguistic and educational research that I think is relevant. One of the problems that students have in writing is that of managing a set of ideas, combining and relating them in an appropriate complex sentence. Young writers are too prone to indulge in

"run-on" simple sentences connected by *and*'s and *but*'s. At Harvard University, John Mellon (1967) developed and tested a set of exercises whereby children can practice "embedding" sentences into one another, thus producing what he calls more "syntactically mature" sentences. For example, one could start with the following three sentences and produce the fourth sentence:

1. Mary and Tom got married in a church on Monday.
2. The church was at the top of the hill.
3. Monday was Tom's birthday.
4. On Monday, which was Tom's birthday, Mary and Tom got married in the church at the top of the hill.

Mellon used his exercises in a year-long teaching experiment with seventh graders. As compared with control groups taught in traditional ways, these children did not produce writing at the end of the year that was judged better by overall ratings of excellence, but their writing did prove to be superior in syntactical maturity. Their sentences were somewhat more grammatically complex and embedded. Mellon's evidence suggests, therefore, that certain kinds of teaching can produce measurable changes in certain aspects of writing skill.

The Teaching of Vocabulary

Although every language arts teacher knows that one of the major problems in the English curriculum is that of teaching vocabulary, there has been difficulty in assessing the real nature of that problem. Quantitatively we have known for some time, from the studies of Thorndike, Lorge, and others, that the number of words that appear in reading matter with even fair frequency is quite large—something around 30,000. Recently I have been working on a statistical model of vocabulary frequency that suggests that the number of words likely to be encountered occasionally is much larger than this. In a typical novel, for example, about half the different words will appear just once, and many of these will occur with extreme rarity even if large quantities of reading matter are sampled. We know that there has been a trend toward more and more vocabulary control in children's readers. While there may have been good reasons for

this, from the perspective of my research it is unfortunate. In order to become really literate, the child needs to be taught *more* words, not fewer.

Qualitatively also, the problem is very difficult. If all we had to teach were the single meanings of, say, 30,000 words, we might be able to handle it. But many words have different meanings depending on context, and the student needs to learn to recognize these. Take a simple word like *text* and consider its different meanings in the following sentences:

> Read just the *text* (not the footnotes).
> He wrote a *text* on butterflies.
> They revised the *text* of the will.
> He took the first verse of Psalm 21 as his *text*.

Psycholinguistics has had little to say about how the child can be taught the enormous variety of meanings that he needs in order to understand literature. We know, however, that words can be thought of as names of concepts, and the study of the development of vocabulary as the study of the formation and naming of concepts.

Concept formation is a large and controversial area in the psychology of cognitive process. In a recent article (Carroll, 1964b), I tried to give a glimpse of how the psychology of concept formation might be applied to the teaching of vocabulary. One type of concept refers to classes of experiences that can be more or less sharply marked off from other classes by their common possession of a particular combination of criterial attributes. Thus, the concept *chair* is marked off from related concepts (*sofa, bench, couch, seat*) by the fact that chairs have backs and legs, are designed normally to seat only one person, and so on. Teaching a concept of this sort requires identification of the particular combination of criterial attributes it refers to and contrasting it with concepts with a different combination of attributes. Other concepts name structures or patterns of experience; many scientific concepts (*force, gravity, acceleration*) are of this type. Teaching these concepts involves carefully identifying the situation in which they occur or can be experienced; the criterial attributes thus belong to the situations rather than to any direct referent. In either case, formation of concepts de-

pends upon the child's ability to perceive in certain ways: *diagonality*, for example, requires that the child recognize certain fundamental spatial relationships. It is probable that the more difficult concepts, therefore, are those that require the more advanced types of perceptual organization. Difficult concepts also depend upon more "primitive" concepts, just as the concept *acceleration* depends upon the more primitive concepts of *space* and *time*. In teaching any given concept, the teacher must take account of the simpler concepts necessary before the child can understand it.

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LANGUAGE DEVELOPMENT IN EARLY CHILDHOOD

JEAN BERKO GLEASON
U.S.V.A. Hospital, Boston

RECENTLY, THE METHODS and techniques of the descriptive linguist have been added to those of the psychologist in studying the development of language in early childhood. By and large, the marriage of psychology and linguistics has been a happy one. It has given the psychologist scientific tools for the study of language and the linguist insight into the problems of learning. Perhaps the only unhappy outcome of the merger of psychology and linguistics has been the name itself, psycholinguistics. At any rate, some terrible jokes have been made about it.

But to the psychologist who has also studied linguistics, to the psycholinguist, child language appears to be a more interesting topic than it has ever been before. Linguistics has taught us to look at language in a new way and has given us new tools for looking.

In this paper I will confine myself to selected aspects of language acquisition and will refer to the research done by Professor Roger Brown and his colleagues at Harvard. Similar work is also being carried out in several other parts of the country with essentially the same results, such as that by Martin Braine in Washington, D.C., and Wick Miller and Sue Ervin-Tripp in

California. So far as we can tell, children in Cambridge, Massachusetts, and Berkeley, California, learn to talk in much the same way. This makes the investigators feel fairly certain that the results of the studies indicate the general nature of language acquisition for all children learning English.

Considering how much there is to learn, it is amazing how quickly children learn to speak. During their first year, babies spend much time listening to adults talk. They also make all sorts of strange sounds. Since babies do not know ahead of time what language they are going to grow up speaking, it is not surprising that they come equipped and ready to learn any of the world's languages and during their first few months apparently babble all the sounds of all the languages from Arapesh to Zulu. But toward the first birthday, a change takes place. The nonsense the baby has been uttering begins to sound like strangely familiar nonsense. In an English speaking community, the baby begins to utter English sound syllables with English-sounding intonation. The sounds of Russian or Urdu are no longer to be heard. Around their first birthday many babies manage to produce a word that their parents think they recognize. The babies make do with one-word utterances for several months; then, when they get to be about eighteen months old—and these are strictly normative statements—most babies begin to put two words together into a minimal sentence. By this I mean that the intonational contours are those of a sentence and not just two words said one right after the other in isolation. He does not say "Daddy. Shoe." He says "daddy shoe," and it is clear even without the possessive *s* that he is referring to his father's shoe and that the two words are to go together.

In the year and a half that intervenes between his first two-word utterance at eighteen months and his third birthday, the child learns all the essentials of English grammar. By the age of thirty-six months many children can produce all of the major English sentence types up to about ten words in length. And by the time a child enters school, his knowledge of English is so vast and complex that no one has yet been able to program the most sophisticated computer to turn out the sentences that any five-year-old can produce with ease and assurance.

When we talk about the grammar of English, we are not, of

course, talking about rules written down in a book. They are not usually explicit rules that any of us know on a conscious level, but we do use them. A first grader does not know what a noun or an adjective or a clause is, nor can he tell you what the nominative or accusative case of pronouns is, but he uses these things appropriately in his own speech.

When a descriptive linguist talks about grammar, he is referring to certain regularities he observes in the language he is studying. In a sense, the task of a linguist setting out to describe a new language is very similar to that of the child setting out to learn his first language. First, he has to learn what the important sounds of the language are, and how they may be combined to make words. There are about forty important sounds in English, and we all learned to recognize them when we were very young. People of course make many more than forty sounds when they talk, so we had to learn what differences are important and what differences do not matter. The sound we think of as "K," for instance, is really several different sounds. The /k/ in the word *keep* is pronounced in a different part of the mouth and in a different way from the /k/ in *kumquat,* but we learned that the distinction between different /k/'s does not matter for English. On the other hand, whether a consonant is voiced or not is very important for English. A /p/ and /b/ are both made in the same part of the mouth, but when we say a /b/ we also buzz in our throats, and that is very important for English. *Pat* is not the same word as *bat.* We also learned in what part of the word a sound may occur. For instance, the /h/ sound we make occurs only in the beginning or middle of words and never at the end. We have words like *happy* or *behave,* but we never pronounce an /h/ at the end of a word. We may write one, as we do in "ah," but if we were to pronounce it and say /ah/ people would think we were talking Arabic. We also learned what sounds may be combined to make English words. If someone had a contest to name a new breakfast food, for instance, we would not think up a name like *pflug* because we know that a word beginning /pfl/ won't do in English, even if it would be a great success in German. Most of the sound system of English is learned during the first three years, but children in kindergarten or the first grade often have a sound or two which they

cannot yet produce correctly, although they do recognize the differences.

The descriptive linguist describes the sound system of the language and then the grammar. The grammar is usually divided into morphology and syntax, morphology having to do with the smallest units of meaning, which are called morphemes. Most short words like *dog* or *cat* or *chair* consist of one morpheme. A word like *bookkeepers* is four morphemes long, *book* and *keep* which can stand alone as single English words, *-er* which means "agent" or "one who does something," and the final *-s* which means "more than one." Both *-er* and *-s* are called bound morphemes because they only occur attached, or bound, to another word. English uses bound morphemes to convey meanings of plurality, possession, and verb tense, and we all know a set of rules, even though it is not conscious, that states when they may be used and in what form.

English, as you know, does not rely heavily on special word endings, or morphology, to get across its meanings. Instead, the burden of the message is carried by the way in which words are arranged into sentences, the syntax. In "The farmer loves the girl," how do we know who loves and who is loved? We know it is the farmer who loves because "farmer" comes before the verb, and there is a strong English syntactic rule that says that the actor comes before the verb and the acted upon comes after the verb. In Latin, from which we derive many of our ideas about case, "farmer" would of course be in the nominative case and "girl" would be in the accusative case. You could say "Agricola puellam amat," or "Puellam agricola amat," and it would be the inflexional endings, the morphology, that told you who was the actor. Word order is so important in English that when it becomes reversed, as it is in the passive, it becomes very hard to learn. If, for instance, you show first graders two pictures, one of a cat chasing a dog and the other of a dog chasing a cat, and tell them to point to the picture called "the cat is chased by the dog," only about half will respond correctly. They ignore the little words that signal the passive and pay attention to the word order. The processes by which speakers sort words into classes and the rules for the combination of members of the

classes are now being worked out for adult and child speakers, but the work is far from complete.

Those first two-word utterances that the child produces at eighteen months have been carefully analyzed by Roger Brown and his associates as well as by Wick Miller, now of Utah, Ervin-Tripp of Berkeley, and Martin Braine of Santa Barbara. It was found that even at the very earliest stages of sentence formation the children did not put just any two words together but rather had a set of words that could occur in the first position and a different set of words that could occur second. One set of words tended to be a large open class of words rather like our nouns, and the other set of words was a smaller class of words that appeared much more frequently and resembled our grammatical words. A child might have a few words like *off* and *on* in his small, frequently appearing class and many words in his other class. He would then produce many utterances like *shoe on, hat on, coat on,* and so forth. It was possible to describe regular grammatical features in even the simplest early two-word utterances.

In order to collect data on the development of syntax in children's speech, Brown and his associates paid regular visits to the homes of several small children over a period of many months and collected miles of tape-recorded conversations between the children and their mothers. The tapes were transcribed and the transcriptions subjected to detailed analysis by a group of linguists and psychologists, who set themselves the task of working out the children's grammar, the unconscious rules by which they operate, at every stage of their development. The evolution of syntactic rules and sentence types was remarkably similar from one child to another.

The kinds of regularities we see in child language can be well exemplified by the way children acquire one aspect of English—its morphological system. Earlier, when we talked about the plural morpheme in English, we said it is *-s,* as in *bookkeepers.* We tend to think of it as *-s* because that is the way we write it. But, if we listen to the sound we make when we pluralize a noun, we find that it is not always the same. The sound the plural makes depends on the last spoken sound in the

singular form. If the noun ends in a vowel or a voiced consonant like *b*, *d*, or *g*, we add a /-z/ sound, as in *bags*, *heads*, or *days*. If the noun ends with an unvoiced consonant like *p*, *t*, or *k*, we add a real /-s/ sound, as in *hats* or *racks*. And if the noun ends in an /-s/ or /-z/ or related sibilant sound, we add an /-əz/ sound, as in *watches* or *wishes*. Although this is the kind of rule that the descriptive linguist might write for English, we all know it too. We do not have to learn the plural of every new word as a separate item. If a new word comes into English, we can form the plural automatically. When the word *bazooka* came into English, we all knew that the plural was *bazookas* with a /-z/ and not *bazookass* with an /-s/ sound. It is clear that at some stage in our lives we learned to pick and apply, without even thinking about it, the right plural ending for any given noun.

The regular past tense in English has parallel forms. We think of the past as adding *-ed*, because that is the way we spell it. Actually, like the regular plural, it has three forms, which depend on the last sound of the verb. We add a plain /-d/ sound after vowels and voiced consonants except /-d/, as in *played* or *lived*. We add a /-t/ after voiceless sounds except /-t/, as in *hopped* or *lacked;* after verbs that end in a /-t/ or a /-d/ we add an /-əd/ sound as in *melted* or *handed*.

Other inflexional forms we all know in English are the possessive (*John's hat*), which follows the same rules as the plural, the progressive tense made with an *-ing* (*going, doing*), the third person of the verb (*he hits, he plays, she watches*) and the comparison of adjectives, like *big, bigger, biggest*.

Adults know these rules, but clearly we have not always known them. There has to be some period of life during which we acquire them. We also know many other rules of morphology —that the *un-* in *unhappy, unbreakable,* and similar words means "not," that the *-er* ending in *teacher* or *listener* means something like "one who does the thing just mentioned." We can add a *-y* to a noun to make an adjective, like *meaty* from *meat*. We have a veritable arsenal of bound morphemes at our disposal. They can be used to form new words or to figure out the likely meaning of new words we meet.

What we wanted to find out was whether or not children

operate with any rules at all and, if they did, to what extent the children's rules were the same as adult morphological rules. It was quite possible that children simply learn everything by rote memory and so have no rules. By this model, the only way a child could know that the plural of *dog* is *dogs* is if someone told him so, and so on for the plural of every noun and the past tense of every verb. For a number of reasons, this seemed unlikely.

One reason that we believe that children have rules is the kind of errors they make. We have all heard children say things like "I digged a hole" or "some mouses were there" or "the bell ringed." These errors are, of course, simply regular forms, and the child is wrong only because English is inconsistent and has a lot of irregular words. If he says *mouses* or *digged,* it must be because at some level he thinks he knows how to make a singular noun into a plural noun and a present tense verb into a past tense verb. Unfortunately the irregularities that abound in English keep spoiling his theories. His tendency to make errors like this at least gives us a clue to what is going on in his own inner organization of English. If anyone thinks that a child simply imitates this type of production from other children, we can point to experimental evidence and to much rarer words that the child has clearly made up all by himself.

In one experiment with first, second, and third graders,[1] we showed them pictures of mice and geese and such things and told them what they were. We would say, "This is a mouse, and now there are two mice." "What's this?" (pointing to the mouse) and the children would say, "a mouse." "And what's this?" (pointing to the two mice), and the first graders in particular answered, "two mouses," having just one second before heard the correct form. So imitation is not as simple as people think it is. You can only imitate what you can already do, using whatever is already in your repertory. That this is true becomes evident if I were to ask you to repeat after me a sentence in Arabic or Sanskrit. Only people who already know Arabic or Sanskrit can successfully imitate sentences in Arabic or Sanskrit.

We have reasonably good evidence that it is something more

[1] Jean Berko, "The Child's Learning of English Morphology," *Word,* 14 (1958), 150-177.

than imitation that leads children to produce words like *mouses*, and we have many less common words to which we can point that the child has clearly made up all by himself. My own middle child, for instance, is a sensitive soul, like all middle children. When she was about two and a half, she was feeling rather put-upon for a while, and when we asked, "Who loves you?" she would answer, "Nobody." After a little while, she cheered up and changed her mind. Now when we asked her who loved her, instead of answering, "Nobody," she said, "Yesbody." I am sure that the creation *yesbody* by analogy with *nobody* was her very own word.

Another example I might cite from our own family is a question our present three-year-old, Cindy, asked about a month ago. She said to me, "Mommy, what do giraffes eat?" Summoning up all the jungle lore at my command, I answered, "Well, they eat leaves, mostly." She paused a moment and then asked, "And what do they eat lessly?" She wanted to know what the next most common item in their diet was, after leaves, and so formed an adverb based on less. Unfortunately there is no English adverb that fills that slot.

Collecting children's errors is both delightful and instructive, but it would take a very long time to get enough data in this way to make any really positive statement about how children learn English. It does tell us that at an early age they are able to manipulate meaningful parts of words in order to make new words with new meanings.

In order to gain systematic knowledge about the English morphological system, we were able to devise an experimental approach. First, to get an idea of what to test for, we looked at children's actual vocabulary. We could not very well expect children to form the comparison of adjectives in an experiment if they had no real comparative adjectives in their own vocabulary, for instance. Accordingly, we examined the 1000 most frequent words in the first graders' vocabulary. We found that they had all of the regular inflexional forms like the plural of nouns, the past tense of verbs, and so on. We also found some adjectives ending in *-y* like *healthy*, a number of words ending in *-er* like *teacher*, and a number of compound nouns like *blackboard*.

Now that we knew what items were in the children's vocabulary, we had an idea of what sort of rules we might expect them to know. How could we test their ability to apply the rules of English morphology to new words? If we asked them for the plural of *dog,* and they told us *dogs,* it would not prove they had any rules. They might have memorized the form *dogs.* We had to be sure the words were new words. So we made up some words. We made a lot of pictures of nonsense animals and people doing strange things, and we made up some words to go with them. For the plural ending in a /-z/ sound, for instance, we made a picture of one bird-like animal and then of two. We would first point to the single animal and say, "This is a Wug." Then, pointing at the two animals, "Now there is another one. There are two of them. There are two ———," and the subjects were expected to fill in *Wugs.* In this experiment we tested a group of adults, to make sure that adults do indeed respond as we thought they would, and eighty nursery school and first grade boys and girls. We could be sure that the nonsense words were new words, and that if the children supplied the right endings they knew more than the individual words in their vocabulary—they had to know general rules enabling them to deal with new words. If knowledge of English consisted of no more than the storing up of many memorized utterances, the child might be expected to refuse to answer, on the grounds that he had never heard of a Wug and could not give the plural since no one had ever told him what it was.

This was decidedly not the case. All the children answered the questions with a great deal of conviction. Their answers were not always the same as those of our group of adults, but they were consistent and orderly answers. Boys and girls answered in just the same way, and, although the first graders were a little more like the adults in their answers than the preschoolers were, the types of answers given by both groups of children were very much the same.

To test the plural endings we have in *dogs,* a /-z/, *racks,* an /-s/, and *watches,* an /-əz/, we used nonsense creatures called a *Wug,* a *Bick,* and a *Gutch.* The children did by far the best with the /-z/ sound of *dogs,* or *Wugs,* which is the most common. They could also add an /-s/ sound to make one *Bick* into two

Bicks. But when it came to the less common /-əz/ sound of *watches* or *glasses,* they added nothing at all. They said, "One Gutch. Two Gutch." And "One Tass. Two Tass." They had real words like *glass* in their vocabularies and could tell us it was "two glasses," but when we showed them a picture of an animal called a *Tass,* they said that two of them were "Two Tass." They did not yet generalize the rule for adding /-əz/ to words ending in /-s/ even though they had a model for it in their own speech. Their rule for the plural was, "To make a plural, add /-s/ or /-z/ unless the word already ends in an /-s/ or /-z/ or related sound, in which case add nothing at all."

With the past tense we found a very similar situation. We showed our subjects a picture of a man with a strange thing on his head, and said, "This is a man who knows how to Spow. He is Spowing. He did the same thing yesterday. What did he do yesterday? Yesterday he ———." And most of them supplied the common /-d/ ending and said that yesterday he "Spowed." They could also tell us that a man who is "Ricking" today "Ricked" yesterday, with a final /-t/ sound. But then we showed them a man who knows how to *Mot.* They said that yesterday he "Mot." Adults, of course, say, "he Motted," but the children did not add the /-əd/ sound to new words ending in /-t/ or /-d/, even though they could tell us that in our picture of an ice cube turning into a puddle the ice cube had "melted," with the /-əd/ ending. Their rule for the past tense was, "To make a verb into a past tense verb, add /-t/ or /-d/, unless the verb stem already ends in /-t/ or /-d/, in which case add nothing at all." The children's rules for the past tense and the plural were very similar simplifications of the adult rules. The third person of the verb and the possessive were formed like the plural.

We also tried some irregular forms. There is, for instance, a group of verbs in English like *sing, cling, bring,* and *ring.* They are nearly all irregular in the past; there are almost no one-syllable verbs ending with *-ing* that are regular. So we made a picture of a man jumping on a thing and said, "This is a man who knows how to Gling. He is Glinging. He did the same thing yesterday. What did he do yesterday? Yesterday he ———." Adults are really torn when they hear something like this. Our adult subjects said that yesterday he "Glang," or "Glung," or

even "Glought." Of course, some of them said he "Glinged," and that is what all the children said. Their rules were always regular and consistent and based on the most general and frequent cases in English.

We also tried to find out if children could make new words patterned on *teacher* with the *-er* ending. So we showed them a picture of a man balancing a thing on his nose and said, "This is a man who knows how to Zib. What is he doing? He is ———." And they said "Zibbing," which showed that they know how to form the present progressive tense. Next we asked, "What would you call a man whose job is to Zib?" Every adult said that a man whose job is to *Zib* is a "Zibber." The children tended to call him a "Zibman" or a "Zibbingman," putting together two free morphemes into a compound word rather than adding a suffix. Of course, since we do have words like *cleaning lady* in English, *Zibbing man* is not such a bad choice, but it was only made by children. When we showed pictures of a big Wug and a tiny Wug and asked our subjects what they would call a tiny Wug, the adults again used suffixes made of bound morphemes, and the children made up compound nouns of two free morphemes. Adults said a tiny Wug was a "Wuglet," a "Wugling," even a "Wugette," and of course a "Wuggie." Children said it was a "baby Wug."

In the final part of this experiment, we asked some questions about a number of compound nouns we had noticed in the children's vocabulary list, words like *birthday* and *blackboard* and *football* and *Thanksgiving* that are clearly made up of two separate words put together. They all seemed to be fairly obvious. At least we thought that all adults would be able to tell us that a handkerchief is called a handkerchief because it is a kerchief that you hold in your hand. We wanted to know if the children had noticed the separate parts of the word. The general form of the question was "Why do you think a birthday is called a birthday?" Unless the name happened to coincide with some very important feature, to the child, of the thing referred to, the children ignored the parts of the word and mentioned what to them was most important. A fireplace is called a fireplace because you make a fire in it, but there is not really much else to say about fireplaces. On the other hand, to children a birthday

is called a birthday not because you are celebrating the day of your birth but because you eat cake or get presents, and that is how they responded. And six out of ten first graders think that Thanksgiving is called Thanksgiving because you eat lots of turkey. While there was less agreement about these words than there was in the production of plurals and past tenses, there was still a great deal of agreement in the *types* of responses we got.

Some of the subjects seemed to have completely private meanings for some of these words. They knew what the words referred to and how to use them, but their ideas about the words were rather amusing. One little boy said that an airplane is called an airplane because it is a plain thing that goes in the air. Another child said that breakfast is called breakfast because you have to eat it fast to get to school on time. Several subjects thought that Friday is called Friday because it is the day you eat fried fish. And two of our subjects thought that a handkerchief is called a handkerchief because you hold it in your hand and go "kerchoo." One of them was six years old and the other was a college graduate. Of course all of our subjects used these words perfectly correctly in their speech, and this part of the experiment was quite separate from asking them to demonstrate their control of the use of the plural, the past tense, or other English inflexions. Here we were asking them what they thought about words that we knew were already in their vocabularies. In a sense it would appear that to speak English it does not matter so much what you think a word means as long as you use it correctly.

By and large, the type of response we got depended very much on the age or stage of development of the subjects. Four-year-olds saw no sense to the questions. For them the name of the thing is a part of it. A birthday is called a birthday because it *is* a birthday. Five-year-olds said a birthday was called a birthday because you got presents. Some six-year-olds had begun to notice at least the *day* part, and adults mentioned both parts of the words.

Asking children what they thought about words was interesting but not the main point of the experiment. What we really wanted most of all to know was whether they had any rules that would enable them to deal with new words. When they

produced plurals, past tenses, and other inflected endings for our made-up nonsense words, they proved that they do, even at the age of four, have an internalized set of rules for dealing with English words. The rules children operate with are similar to, but not identical with, adult rules, and they are based on the most consistent and regular features of English. While this knowledge is valuable for both psychology and linguistics, the question that inevitably arises is, What, if any, are its practical consequences? Here I can only sketch a possibility or two.

In a very general way, it must be obvious that the more we know about a child's mind and his language the better we are able to instruct him in further language skills, like reading and writing. If we know what his spoken language is like and what kind of thinking underlies it, his difficulties with written language are more understandable and even more predictable. It is a little like the situation that arises when a German tries to learn to speak English as a second language. If his teacher of English also knows German, she understands why he mispronounces certain sounds and puts his verbs at the end of the sentence. In the same way, a look at the child's own spoken language makes many of his difficulties understandable when he is learning to read and write.

As I said before, the child arrives at school age in possession of most of the important features of English. Having just mastered spoken English, he is expected to learn to read written English via the somewhat rickety English alphabet. He has forty different sounds in his speech, and the alphabet has twenty-six letters, which cannot be counted upon to stand for the same sound every time they appear. He needs all the help he can get. It has been recognized for some time that beginning reading materials should be based on the child's own vocabulary. His task is also lightened if the sentence types he reads are like the sentences he normally uses. It is helpful to know that while he may not understand passive sentences and may think that the past tense of *swing* is *swinged*, his own sentences are considerably more sophisticated than the "Look, look, look" or "Run, Spot, run" variety.

Since children's spoken language is so consistent and regular, it points toward teaching the regular and consistent aspects of

English spelling before the exceptions. A small child learning to talk does not learn all at one time the different forms of the plural represented by words like *bugs, books, watches, sheep, oxen,* and *children.* He learns *bugs* and *books* first, then *watches* and the others as separate items. If the first words he learns to read are very consistent in their spelling, he will be learning written English in much the same way that he learned spoken English, progressing from the largest general cases to the exceptions. This sort of thinking lies behind the development of most "linguistic" readers.

Of course there are many exceptions. Here, I think, linguistics can again be of help. If you know the sounds in a child's spoken language, you can help him when he has trouble reading and writing and spelling. If, for instance, a child writes *was* as *wuz,* what is he doing, besides being incorrect? Actually he is being a pretty good linguist, writing the word the way he says it. He is using the written system in a very consistent and reasonable way, because the most common way the sound /ʌ/ is written, as in *cut, but, nut,* and so on, is with the *u,* and no one will argue that the final sound in *was* is the buzzing sound of a /z/ and not the hiss of an /s/. He is incorrect because *was* is an irregularly spelled word in English, but his ear is good and his principles are sound. Children's ears are often better than ours when it comes to hearing what they are pronouncing. Part of this is because adults tend to confuse alphabet letters with the actual sounds they make when they pronounce the words. There is a strong tendency to feel that sounds that are represented by the same alphabet letters are the same or very nearly so, even when they are different. The beginning sounds in *thigh* and *thy* are both written *th,* but they are different sounds. And the beginning sound of *get* is quite different from the beginning sound of *gem,* even though they are both written with a *g.* They are as similar to one another as the beginning sound of *cat* is to the beginning sound of *chat.*

Because adults have been reading for many years, they cannot help feeling that things written alike are pronounced alike, or almost alike, even when they are different when spoken aloud. We also tend to feel that words spelled differently are pronounced differently. Many speakers think that they pronounce

pear differently from *pair* or *pare* because they are spelled differently. Or they feel that if only they said them slowly or carefully enough they could hear the difference. But for most speakers the only difference is in the spelling, and, if you tape-record people saying the different kinds of *pare* and play it back to them in mixed up order, they have no idea which one is which.

Children arrive at school with a very orderly and consistent model of the English language in their possession. Our experiments indicate that they are able to generalize from what they already know in order to handle new instances. They do not yet at the age of six appear to have any built-in patterns or rules for dealing with the rarer patterns of English, and irregular words have to be learned as separate cases.

I have tried to mention a few ways in which an understanding of the child's own language and the way it develops can help guide us in instructing him. In the next few years, much more significant work will be completed on child language, as new tools, including highspeed electronic computers, are brought to the study of this subject. The prospects are very exciting.

LANGUAGE ACQUISITION AND READING

WICK R. MILLER
University of Utah

THERE HAS BEEN a veritable revolution in linguistic knowledge in the past ten years, centered especially upon the work of Noam Chomsky. It has been apparent for some time that language is a very complex system, but we are just now coming to realize how complex that system is. A really deep understanding of any field involved with language, including language learning and reading, presupposes a deep understanding of language. It would be impossible to give you a deep understanding in the time allotted me, so I will not attempt this task. Instead, I will refer you to two current works. The first, by Paul Postal (1964), can be read and understood with no special background in linguistics. The second, by Noam Chomsky (1965), requires considerable background and sophistication but should be a goal for anyone seriously interested in learning about language.

While we cannot say *how* a child learns his language, we have a fairly clear notion *what* the child must learn, and considerable evidence has accumulated over the past few years about the patterns of learning. Recent work in this field has been reviewed by Ervin-Tripp (1966). Language develops and unfolds very naturally and regularly, seemingly according to a timetable. The timetable is not rigid but will be observed within certain limits except under the most severe physical or cultural

handicaps. Lenneberg (1964, 1967) shows that the timetable and the capacity for language are at least partially independent of general intellectual capacity. Cultural deprivations have to be extreme, to the point of the child not hearing language, before language is suppressed.

The newborn child does not, of course, have language. Until about six months of age, he is at what is sometimes called the cooing stage. Sounds consist of crying, gurgling, and the like. While we can probably say the sounds are human in character—that is, restricted to human infants—they do not appear to be any more different than might be expected among infants of different species of animals. At around six months of age we find the babbling stage. The vocal behavior is not language, but the infant has control over the sounds he makes, as evidenced by repetitions of the same syllable. Further, the sounds are those found in languages. Some of the sounds, however, are not to be found in the language he hears, and others will be difficult to learn and will appear late. There is no evidence at all that the practice of sounds during babbling contributes anything to language learning. If babbling serves some function in language development, it is not the obvious one of learning the sounds of the language.

When he is about a year old, the child starts learning his language. There is no overt evidence of his learning the grammar during this initial period, since all of the first utterances are one-word sentences. But there is overt evidence for two other aspects of language: (1) phonology, or the sound system, and (2) words, or vocabulary items. Phonology and vocabulary items are learned largely independently of each other. The child does not learn individual sounds in individual words, nor does he learn individual sounds. Instead, he learns phonological contrasts, beginning with that between consonant and vowel. The consonant is usually a stop and usually a front consonant such as /p/. The vowel is usually a low vowel such as /a/. Next he may contrast front and back consonants, such as labial versus dental, to give him the two consonants /p/ and /t/. Then the contrast between stop and fricative multiplies by two the number of consonants, giving two labials (/p/ and /f/) and two dentals (/t/ and /s/). Next he may learn to contrast voiced and voice-

less consonants, yielding four voiced consonants (/b/, /v/, /d/, /z/) that contrast with their voiceless counterparts (/p/, /f/, /t/, /s/). The same process is to be observed with the vowels. With a relatively small number of contrasts, the child is able to learn the larger number of sounds in his language. By three and a half or four years of age, the normal child has learned all or almost all of the phonological system. Though he still makes occasional mistakes, these represent mistakes within his own linguistic system, not things that he has not yet learned. By seven or eight, mistakes are about as common as in adult speech. If they are more frequent, the child is in need of speech therapy.

Since the child is learning contrasts, not sounds belonging to individual vocabulary items, a newly learned contrast will be applied to all vocabulary items, both new and old, for which that contrast is appropriate. Thus imitation cannot play an important role in learning the phonology. The child learns features that cannot be directly imitated.

Some children develop contrasts that are not to be found in the language they are learning. For example, English speaking children will sometimes have no final nasal consonants but will develop a contrast between nasal and nonnasal vowels. The nasal vowels will be used in words that end in nasal consonants in English, and the nonnasal vowels will be used elsewhere. Such contrasts are always temporary and are lost as soon as the appropriate adult contrast is learned.

The patterns of language development exhibited by each child are idiosyncratic, and it is therefore necessary, in studying the phonological development, to study individual systems and individual cases. But there is some sequencing and some order across children: contrasts between labial and dental (e.g., /p/ and /t/) almost always occur before contrast between velar (e.g., /k/) and other consonants; contrasts between high and low vowels are found before contrasts between front and back vowels; contrasts between umlauted and nonumlauted vowels for French and German speaking children tend to be late; and so on. There is also a very marked tendency for contrasts that are universal or nearly so in natural languages to occur early, and those that are found in only a minority of languages to be late. There are a number of studies of specific cases of phonological

development available: Leopold (1953-1954) gives examples and a general account; Burling (1959), Chao (1951), and Velten (1943) give studies of individual children.

The subject of grammar is much more complex than that of phonology, and I can only hope to highlight some important aspects of our present knowledge.

The first sentences of the child consist of a single word, with multi-word sentences first appearing at or shortly before a year and a half. It is likely that the child has learned something of his grammar before this time and is able to understand certain grammatical patterns, but existing research techniques are unable to cope with grammatical development until multi-word sentences are found. The first such sentences, two or three words in length, have been characterized by Brown and Fraser (1964) as "telegraphic speech." One hears sentences such as *That doggy, Open door, Truck go, Sweater off, Mommy there,* and the like. It is as though the child memorized adult sentences but left out the grammatical elements and unstressed words. But this will not explain the sentences, for two reasons. First, there are always some that do not follow adult patterns (e.g., *Book read* or *A water*). Further analysis normally shows that such sentences fit into the pattern exhibited in other sentences used by the child and are thus true creations of the child's linguistic system, not part of a stock of memorized and abbreviated sentences. Second, if one examines the sentences used by an individual child and ignores their adult counterparts, a very clear pattern emerges for the majority of sentences. A few words, which can be called "pivot words," are of high frequency and typically occur in a particular position in the sentence. The remainder consist of all other vocabulary items and are of low frequency. Thus a typical pivot system might consist of *this, that, one, the, other* in initial position, and the remainder—words that can be classified in the adult system as nouns, verbs, and adjectives—in final position. As the child grows older, the pivot class and remainder class become divided into subclasses. This is, of course, the genesis of word classes in child languages.

It is important to note that pivot structure is observable only if individual cases are examined, because children differ in what they place in pivot and remainder classes. But there

are certain patterns that recur frequently. Demonstratives, articles, modifiers such as *other,* and the verbs *want* and *see* are common as initial pivots. The locatives *here* and *there* are used by some children as initial pivots, by others as final pivots. Usually, but not always, the pivot and remainder classes will at least partially match adult classes—and when they do not, they are usually short-lived.

After the pivot system, there is a period of very rapid grammatical development starting at two or two and a half years of age and lasting for about a year or a year and a half. When this period is over, the bulk of the grammatical system has been learned. We find the introduction of grammatical words such as modal auxiliaries, prepositions, conjunctions, and the like, inflectional suffixes such as the plural for nouns and tense for verbs, and complex grammatical operations which allow for the formation of questions, negatives, infinitives, manipulation of indirect objects, and the like.

Jean Berko (1958), in a study of four- to seven-year-old children, found that inflectional endings were often omitted when they presented phonological difficulty. Thus, plural endings were more often omitted with nouns ending in a sibilant or affricate (*bus, match*) than with nouns ending in a vowel or other consonants (*straw, cow, dog*). Berko used nonsense words like *wug* and *tass* (see her article, which precedes this one) in her study so as to eliminate the possibility that the children had learned whole inflected words. This way she could test for productivity. She was dealing with older children, and it was clear the children already knew the rules for plural formation. Thus her results reflected degree of difficulty, not presence or absence of the rule.

A study by Miller and Ervin (1964) found that the pattern discovered by Berko for older children reflected the developmental sequence of two-year-old children. Berko's technique of testing with nonsense words was used, as well as regular nouns. Children were tested once a month so that a developmental sequence could be observed. It was found that the plural was used with sibilants and affricates (*tass, orange*) later than with other words and was used with real nouns (*dog, orange*) a little earlier than with nonsense nouns (*wug, tass*). This would seem

to indicate that the child learns the inflectional endings with certain words as whole units before he abstracts the grammatical rule that allows him to construct new forms.

Perhaps the most interesting aspect of inflection has to do with irregular formations. Everyone is familiar with the regularization that is found in children's speech, such pairs as *foot-foots* (or *feet-feets*), *break-breaked, go-goed.* These forms indicate that the child has learned regular rules but has overapplied them. Regular verbs considerably outnumber the irregulars, but the latter, usually referring to the most common activities, are of higher frequency. In the child's vocabulary, which lacks many uncommon regular verbs, the frequency of irregular verbs is even higher. In our data almost all examples of the regular past tenses are with irregular verbs, very few with regular verbs. This, to me, is a vivid demonstration of the child's search—however unconscious—for grammatical rules.

It is also interesting to note that the child knows which inflectional categories can be applied to which word classes, even though he may not know exactly how the category is to be realized with certain irregular forms. I have observed a few mistakes, such as *stand uped* in place of *stood up,* and *byed* in place of *went by,* but this type of mistake is very rare indeed. Further, I have never observed the regular past tense with forms of the verb *to be*: that is, forms such as *be-ed* or *is-ed* in place of *was.* If such forms occur, they must be extremely rare. This is not surprising; the verb *to be* is like no other verb in English, having both an irregular paradigm and unique uses in certain grammatical constructions such as the progressive and the passive. The evidence seems to indicate that the child first learns the system for this verb apart from the system of other verbs and then later learns that it fits into the larger system. Thus, after the irregular paradigm is learned, the child learns that *was* is the past tense of *is* just as *wanted* is the past tense of *want.*

Brown and Fraser (1964) have shown that sentence length is a useful index of grammatical development. When the child starts to use such grammatical words as articles, modals, conjunctions, and prepositions, telegraphic speech wanes and sentence length increases. It is important to note that sentence length is an index and *only* an index of grammatical develop-

ment. It cannot indicate, for example, when articles or auxiliaries enter the child's grammatical system. And the index in fact disguises some grammatical developments that result in shorter sentences. For example, a linguistically appropriate answer to "When did John go?" could either be "John went yesterday" or simply "Yesterday." If the second type of answer is given, a short sentence results. Children must have a fairly complex grammar before they are able to correctly interpret questions and give short answers of this type. We do not find them until the telegraphic stage is past or on the way out.

In a study by Ervin-Tripp and myself, we kept track of sentence fragments that contained *not*. We found that such sentences did not appear until the child's grammar had the appropriate rules for full negative sentences. Two examples from a child at two years, seven months, will illustrate this type of sentence fragment. In response to the question "Does she walk yet?" the child answered "No, not yet." A second example: "She's not through eating?" "Not through." These sentence fragments are quite different from the earlier abbreviated sentences of telegraphic speech.

The development of three related sentence types is particularly revealing. The first is the yes-no question, in which the subject and part of the verb phrase trade places: "He can go" becomes "Can he go?" In the second type, negative sentences, the grammatical word "not" is inserted in the appropriate place within the verb phrase: "He can go" becomes "He cannot go" (with *cannot* normally contracted to *can't*). In the third type, verbal ellipsis, most of the verb phrase is deleted: "He can go" becomes simply "He can." In certain contexts these three types of sentences must include an inserted *do*: "He went" becomes "Did he go?" "He did not go" (usually contracted to "He didn't go"), and "He did."

Children do not have elliptical sentences until the appropriate rule for verbal ellipsis is learned. This is not surprising because these sentences are of no special semantic importance; they are useful only in reducing redundancy. But the two other types are different. The child asks questions and forms negatives before he has learned the adult rules. The technique for early questions seems to be universal: a sentence with rising intonation

is used. Thus "He go?" is used in place of "Can he go?" or "Did he go?" Negatives, however, are variable. One common pattern is to use *don't* before the verb and to make no adjustments for tense, e.g., "He don't want milk." Some children use *no* or *not*: "He no want milk" or "He not want milk." Other children have less common patterns or various combinations of those listed above.

The early negative sentences illustrate again the child's search for grammatical rules, or even his invention of them. There are similarities across children, but we do not find identical patterns of development.

When the child learns the appropriate rules for questions, negatives, and elliptical sentences, the grammatical patterns are normally learned relatively slowly for one type and then extend very rapidly to the other two. Most commonly the negative will be learned first, followed by questions and elliptical sentences in quick succession, but this order of acquisition is not invariable. Ervin-Tripp and I observed one child who first learned the patterns for modal questions. Certain modals such as *could* were learned and used only in inverted position: "Could I have the dish?" or "Could you make this one?" Later the child learned to use the modals in both inverted and normal order, then to form questions with the appropriate form of *do*. Soon after this, the full range of patterns was found with negatives and elliptical sentences. Again, though there are similarities across children, each child develops his own system.

It is obvious to anyone who has listened to small children that they are mimics. There is wide individual variability, but almost all children imitate at least a little, and, for a few, imitations comprise almost half of the sentences. Thus it would seem that imitation must play an important role in the child's linguistic development; but what is that role? There has been some recent work on imitation, reported in the literature by Brown and Fraser (1964) and Ervin (1964). We find that imitated sentences of young children have exactly the same character as non-imitated sentences: sentences are abbreviated, grammatical words are left out, and sentences have the telegraphic style typical of children's speech. The omissions reflect those aspects of gram-

mar not yet mastered by the child. In short, imitated sentences are not grammatically different from the child's freely composed sentences. They are not grammatically progressive and thus cannot be forerunners of grammatical change in the child's linguistic system.

If this is true for imitated sentences, it is true *a fortiori* for memorized sentences. Such sentences are not common, seeming so to the adult because they are repeated by the child and especially noted by the fond parent. But either the child knows the underlying grammar of the sentence and hence can learn nothing by it, or else he does not know the underlying grammar, does not understand the sentence, and cannot profit from it. Memorizing sentences is of no use to the child because he must learn the language, the set of grammatical rules that underlies the infinite set of sentences that he must learn to produce, interpret, and understand. And grammatical rules are abstract and formal operations that cannot be directly obtained from memorized or imitated sentences. These sentences are the result of the grammatical operations, not the operations themselves.

So again, what is the role of imitation in the child's linguistic development? This is an easy question to answer: I don't know. But I can offer a suggestion. It allows the child to practice the grammatical rules he has already acquired but which are not yet firmly established. The child must run through the grammatical rules to interpret or understand the sentences. By repeating and imitating, the child is given an opportunity to run through the rules again.

I would like to turn to a subject that I have hinted at several times—the creative aspect of language. The grammar of a language consists of a finite set of rules that will allow an infinite set of sentences. Both of these properties are necessary. A grammar must be able to allow novel sentences to be used in novel situations. Yet the grammar itself must be finite, or else it could not be learned. If a language consisted of a finite set of sentences, the child would simply have to learn all the sentences of the language—a difficult task, to be sure, if the number of sentences were large, but a task that would not be very difficult for the psycholinguist to account for. It is much more difficult

to understand how the child learns the grammatical rules, rules which underlie the sentences he hears but which are not directly observable.

I don't think it would be incorrect to say that the creative aspect applies to the child's learning of his language. Though every child in a language community ends up with essentially the same grammar and the same phonology, each child exhibits a somewhat different developmental sequence. The evidence supports the notion that the child develops a set of rules, tests the rules with the sentences he hears, and then changes, modifies, abandons, or elaborates his rules as necessary. In other words, the child invents his own rules, in both phonology and grammar. Some children are more imaginative than others; a few invent phonological and grammatical rules that cannot be related to rules in the adult language. Rules of this sort are short-lived, probably because they cannot be mapped into the sentences that the child hears.

A few years ago, the current theories of learning seemed adequate to account for language learning. But with increased knowledge about language and language structure has come the realization that these theories cannot cope with the observed facts of language learning. Chomsky (1959) demonstrated this very clearly in a review of Skinner's *Verbal Behavior*. Any account of language learning will have to consider the contribution of the learner, a point emphasized by Lenneberg in his article "The Capacity for Language Acquisition" (1964, p. 579): "There is a tendency among social scientists to regard language as a wholly learned and cultural phenomenon, an ingeniously devised instrument, purposefully introduced to subserve social functions, the artificial shaping of an amorphous, general capacity called *intelligence*. We scarcely entertain the notion that man may be equipped with highly specialized, biological propensities that favor and, indeed, shape the development of speech in the child and that the roots of language may be as deeply grounded in our natural constitution as, for instance, our predisposition to use our hands." In his review of Skinner, Chomsky (1959) has elaborated this point of view:

> The listener (or reader) must determine, from an exhibited utterance, what optional rules were chosen in the construction of

> the utterance. It must be admitted that the ability of a human being to do this far surpasses our present understanding. The child who learns a language has in some sense constructed the grammar for himself on the basis of his observation of sentences and nonsentences (i.e., corrections by the verbal community). Study of the actual observed ability of a speaker to distinguish sentences from nonsentences, detect ambiguities, etc., apparently forces us to the conclusion that this grammar is of an extremely complex and abstract character, and that the young child has succeeded in carrying out what from the formal point of view, at least, seems to be a remarkable type of theory construction. Furthermore, this task is accomplished in an astonishingly short time, to a large extent independently of intelligence, and in a comparable way by all children. Any theory of learning must cope with these facts.
>
> It is not easy to accept the view that a child is capable of constructing an extremely complex mechanism for generating a set of sentences, some of which he has heard, or that an adult can instantaneously determine where (and if so, how) a particular item is generated by this mechanism, which has many of the properties of an abstract deductive theory. Yet this appears to be a fair description of the performance of the speaker, listener, and learner. If this is correct, we can predict that a direct attempt to account for the actual behavior of speaker, listener, and learner, not based on a prior understanding of the structure of grammars, will achieve very limited success. . . . The fact that all normal children acquire essentially comparable grammars of great complexity with remarkable rapidity suggests that human beings are somehow specially designed to do this, with data-handling or "hypothesis-formulating" ability of unknown character and complexity.[1]

Chomsky has elaborated these points in his recent book *Aspects of the Theory of Syntax* (1965).

What, precisely, is the contribution of the organism? What is the form of the innate characteristics that the child brings to bear in learning his language? The characteristics must not be specified too exactly because we know that the child can learn the grammar of any language; the only prerequisite is that he be raised in a social group speaking that language. On the other hand, we probably need to be specific enough to account for the limitations placed on all natural languages, the universal features of grammar. Suggestions have been put forward by McNeill (1966), Slobin (1966), and Fodor (1966) concerning the contri-

[1] Published by the Linguistic Society of America and reprinted by permission.

butions of the organism, but before their suggestions can be evaluated we need more data.

By the age of four, the child has learned most of the phonology and grammar of his language. While he has considerable linguistic competence, there is still much he cannot do with his language, and he still has much to learn. Linguistic competence is not the same as communicative competence, a point emphasized by Dell Hymes (1966). The child has the grammatical competence for constructing extremely intricate sentences, with infinitives placed in relative clauses, for example; but he seldom does so, probably because of limitations that are associated with memory span. Many grammatical patterns are not firmly set; the four-year-old knows that the past of *go* is *went*, but he frequently forgets and says *goed*. Mistakes of a similar nature are found in phonology as well. The child does not yet know the full range of styles and functions of language available to adults. And he also must learn a great many vocabulary items.

While the four-year-old child still has much to learn about language, he now has the linguistic competence to proceed. In particular, he has the linguistic competence needed in learning to read. I am *not*, however, suggesting that we teach four-year-olds to read. There are a number of prerequisites that must be filled before it becomes practical to teach reading, and linguistic competence is only one of these. The important point is this: There does not appear to be much difference between the four-year-old and the six-year-old child in regard to linguistic competence (and linguistic competence *only*). At both ages the child knows his language and has the appropriate linguistic knowledge needed for reading.

In reading, we need first to ask what is learned, and this in turn requires us to define reading and writing. This is a very easy task, and the answer seems so obvious to me that I hesitate to spend much time on the topic. But when I look at the definitions of reading that are to be found in the literature, it appears that what is obvious to the linguist is not obvious to others. We find, for example, such definitions of reading as getting meaning from the printed page. As a definition, this is ridiculous. It describes the result of reading, but it does not define it. It is like

defining language as getting meaning from the spoken word, clearly impossible as a definition.

Reading is the interpretation of writing, just as listening (or better, understanding) is the interpretation of speech. All four of these—reading, writing, listening, and speech—are based on the grammar of a language, the set of rules that account for or generate the sentences of the language. Writing is a speech surrogate, a substitute for the speech of a *particular* language. A writing system can be borrowed by one language from another, but when this is done it is changed and adapted to the new language. Our writing system was borrowed from the Roman writing system, but the letters had to be redefined so that they stood for sounds in English instead of in Latin.

Language has certain characteristics that make speech surrogates such as writing possible. It is composed of arbitrary units that can, just as arbitrarily, be represented graphically instead of by means of speech. There are two sets of units, one for each of the two levels of components of language, and there are two corresponding types of writing systems. In one, word writing, the graphic symbol represents the units of the grammatical component. The symbol stands for the words or the elements that compose words—roots, suffixes, and prefixes. This is the writing system found today in China and the kind used in earlier times in Mesopotamia and Egypt. Every language has several thousand elements in the grammatical component. If each one has a distinct graphic symbol, much time must be invested in learning. A person must learn every vocabulary item twice: once in its spoken form, and once in its written form.

In the second type, the graphic symbols stand for sounds, a much more efficient system. It can be learned more easily, since each language has a relatively small number of sounds. This type of system has at least some irregularities in every case. The English writing system has more irregularities than most, a fact that has often been cited as a major obstacle for learners. I am not aware, however, of any convincing evidence in the literature supporting this notion.

Returning to the questions, what is learned when a person learns to read? He learns the writing system, in English a system

in which sounds are represented graphically by letters. In order to be a competent reader, he must be able to interpret written sentences quickly and automatically in the way that he is able to interpret spoken sentences quickly and automatically. Whether or not he can consciously analyze the relationships between sounds and letters will have little to do with his competency. It is more apt to indicate his skill at spelling, or whether he learned to read by the whole word or phonics method.

Any sophisticated investigation of reading must also take into consideration what is known about language acquisition. It is not expected that there will be any direct transfer of information from the field of child language to reading, or that the underlying processes in learning are similar in the two cases. In fact, I would expect the two processes to be quite different. But, in understanding the linguistic competence of the beginning reader, it is helpful to know how he acquired that competence. Further, it is useful to contrast the two types of acquisition in order to develop some insight as to what might be expected to be similar and what to be different.

Writing, as contrasted with speech, has a relatively recent history. It goes back no further than five thousand years. Furthermore, we can call writing an invention, whereas speech is the product of human evolution and deeply rooted in human biology. Language is so much a part of our human heritage that any child lacking the capacity for language is not considered normal. Since writing is recent, and the product of human invention, we cannot *a priori* expect every normal child to have the capacity for reading. As a point of fact, we find that almost all children do have this capacity. But not all: some seem to be born with congenital word blindness. The number is low, however, which would seem to indicate that the capacity for language and the capacity for reading are closely related.

It is obvious that a child learns his language but not so obvious that nobody teaches it to him. There is a widespread belief in our culture that the mother teaches the language to the child, but this is a cultural belief, and, like all cultural beliefs, it varies from culture to culture. The Mohave Indians believe that the Mohave child is born with the Mohave language; at birth, he is capable of understanding, but not of speaking, the

language. The Hidatsa Indians, on the other hand, believe that teaching is important in the child's learning of Hidatsa. The Shoshoni Indians believe that the child will learn a language by being exposed to it; he does not need to be taught the language because he will simply "pick it up." It turns out that the Shoshoni belief is closest to the truth. In spite of widely differing beliefs about and practices in language teaching, children of all cultures appear to learn their language in essentially the same way.

How important is teaching in the acquisition of reading? Common sense tells us that it is very important. But how far can we trust common sense on this matter? Common sense also tells many mothers that teaching is important in the child's language development, and, as I have pointed out, this is not so. I am always willing to listen to common sense but not to trust it too far.

There is some evidence that could be construed as countering this common sense notion. One can always point to some individuals, admittedly exceptional, who pick up reading without ever being taught. Furthermore, in spite of the method used, some children always learn to read. Some children learned from the McGuffey readers, some by the whole word method, some by the phonics method. And whatever method was used among the ancient Sumerians, at least some children learned to read the cuneiform system of writing. On the other hand, teaching must be of some importance, because only the exceptional individual seems to be able to pick up reading by himself. And some children who have been taught, by whatever method, have failed to learn. At least some of the failures can probably be ascribed to inefficient teaching methods. But I would like to make the following suggestions: that the child must, on his own, form some hypothesis about the relation between writing and speech; and that teaching methods are not as important as is generally believed.

I have concerned myself with theoretical issues rather than practical applications or implications. This has been by choice because I have had no experience with reading programs. Until I have had some practical experience, I will leave the applications and implications to the practitioner. But I do want to

make a final remark on practice before I finish. There are a number of new reading programs that profess to use a "linguistic approach" or "linguistic method." The use of these terms is a disservice to both linguistics and education. Linguistics has been discovered by educators in the last few years; many do not understand exactly what it is or what use it may be, but they are convinced it is a good thing. When it is discovered that the new "linguistics methods" do not live up to their promises, that they do not solve all the problems in reading, the honeymoon will be over. And this will be unfortunate for both linguistics and education. The problems in the application of linguistics are the same ones found in all the behavioral sciences. We do not know enough about human behavior, be it in the fields of linguistics, psychology, sociology, or anthropology, to be able to apply our findings with complete confidence. But the scholar in the behavior fields, as in other academic fields, has an obligation to make his findings known to those involved in practical application. And the converse also holds true; specifically in the area of reading, the practitioner should know what language is and should be familiar with modern linguistics.

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SOME CONTRIBUTIONS OF LINGUISTIC SCIENCE TO THE TEACHING OF READING

HENRY J. SUSTAKOSKI
State University of New York, College at Buffalo

I

IT IS USEFUL, in organizing a paper such as this, to first define the science of linguistics before discussing some of the implications of that science for the teaching of the language arts in the elementary school. My definition of a linguist would be a scientist of language, in contrast to the popular notion that he is a polyglot, and very much in contrast with the idea that he is a teacher of languages. It is possible, of course, for a linguist to be a polyglot—many are—and also to be interested in the problems of teaching languages. But neither of these interests are really a part of the job of the linguist *as* linguist; they are, for him, secondary considerations. In recent years, many linguists have become concerned with the application of basic insights from their science to the teaching of English as a foreign language and to the teaching of language skills to native speakers of English. But again, for the linguist, these are secondary interests. Another factor, partially incidental, has strengthened many linguists' interest in the analysis of the English language. The competing analyses of English by various scholars have become the focal point, in considerable measure, for the various schools of linguistic analysis, particularly in the United States.

Even a brief history of the development of the science of linguistics would not be possible here. I will refer you to the excellent account that can be found in Charles Carpenter Fries' *Linguistics and Reading*. Incidentally, Fries, in this book, also gives an excellent sketch of the history of the teaching of reading and makes some of the major points that linguists have been confronting reading specialists with for the past few years. Additionally, he exposes Flesch's *Why Johnny Can't Read* in telling detail. I recommend the book and will recapitulate some of what Fries says, briefly, but I must also consider some things that Fries could not discuss at the time he wrote the book: that is, recent technical discoveries that should be added to the recommendations that linguists make to the person who is preparing materials for the teaching of reading or who is working in the classroom trying to lead the young to a mastery of the written code.

The comparative philologists had been concerned with showing in detail the nature of language as it changed; with showing, for instance, how Spanish, or French, or Italian evolved from Latin. Or they were interested in showing how the Indic languages had once sprung from the same linguistic sources as the European languages. These philologists did not regard change as degenerative; they regarded it as natural, as a part of the human experience in every single aspect and dimension of life. The "laws" of the comparative philologists, such as Grimm's Law, sought to explain how these changes occurred.

In contrast, there is another tradition of linguistic judgments perpetrated by the orthoepists, including Samuel Johnson. The Johnsonian-orthoepist tradition became concerned with imposing linguistic choices on all other speakers of the language. These grammarians sought to condemn and outlaw certain pronunciations and usages and to bar them forever from the classroom. (Johnson himself was not as narrow-minded as some of his followers, though he certainly maintained a "judgmental" attitude.)

It is interesting to note that the Oxford dictionary, which covers a thousand years of English language history, first undertook to *describe* the language as it was actually used at the time of the compilation of a particular edition of the dictionary. The

Oxford purpose, then, was fundamentally scientific: that is, to record. It would, of course, be socially naïve to say that the kind of language a person uses is not indicative of his education, his social class, and his geographic origin and habitat. It has been long recognized that there exist in all languages both social and geographic dialects. And the Oxford dictionary did and does make a record of some of the social implications of certain vocabulary items and certain common usages. But this does not mean that the editors of the Oxford dictionary did the same thing that the followers of Johnson have been doing. They did not set themselves up as the arbiters of linguistic taste; they did not impose their personal choices on an unsuspecting public; they recorded the facts of usage. In recent history, the heat generated over Webster III, as it has come to be known, ultimately concerned this choice of roles for dictionary makers.

But the tradition of Johnsonian dictionary making became the backbone of school grammar. School grammar was not primarily concerned with how a language, as a system, worked; it became obsessed with passing judgments on vocabulary items and usages which they, the dictionary makers and textbook writers, felt were "inelegant." There was nothing scientific about this kind of approach to language because science, as an objective analysis and understanding, was not their interest. The furthering of a moralistic approach to the use of language was their purpose.

The objective and descriptive base that did exist in schoolbook grammar was further undermined in the thirties by the development of the functional approach to grammar. The essence of the functional approach was to discourage the teaching of formal grammar—that is, any analysis of the structure of language for its own sake (it was asserted that this was not a practical way of producing good writers)—and to restrict any teaching of language to very short units (some proponents of this view hold that any lesson on grammar that lasts longer than five to ten minutes is bad) on some aspect or other of linguistic etiquette—that is, briefly, *very* briefly, demolishing once and for all those things which the linguistic judge considered bad. The problem remains, of course, that these demolitions occur at least annually, with little or no demonstrable effect on

the audience and with an increase in frustration on the part of the teacher using them.

In the functional approach, the few really useful things in school grammar, such as diagraming, were ridiculed. Incidentally, other linguists have found merit in traditional diagraming. Henry A. Gleason, Jr., in *Linguistics and English Grammar,* states that he always found traditional diagraming at least somewhat useful. All linguistic analyses of syntax do make use of diagrammatic techniques, though linguistic diagramers make many distinctions ignored by traditional grammarians and generally succeed in making their diagrams more usable "models" of how the language functions. The linguists' argument, then, with the traditional diagramers is over the criteria that are used rather than with the procedure itself. There are also, of course, in most linguistic models of syntax, other dimensions than the schematic presentation of syntactic relations; and these other dimensions are primarily lacking in traditional schoolbook grammar. The dimensions are phonology (the sounds of language), which is almost totally ignored, and morphology (the forms or shapes of language), which is studied primarily with the purpose of pointing out the derivation of bases, prefixes, and suffixes originating in Latin and Greek. English morphemics is infinitely more complicated, and more interesting, than can be supposed from such a naïve approach to word formation.

Another major criticism of traditional grammar is that it was primarily based on a Latin mode; that is, it was assumed that Latin, as the language of a revered civilization, was somehow perfect and represented a Platonic "ideal" of the way a language should function. Even many traditional grammarians recognized that English was not just like Latin, but the Latinate grammarians would respond to this criticism with a statement such as the following: "You're right, English is a degenerate form of Latin, and if it doesn't fit the Latin model, we should try to make it work more like Latin and maybe we'll improve English." This attitude is naïve and pernicious, for it denies the integrity of the English language and cannot promote the effective use of English for communication; it can only make people insecure and frustrated. And the development of effective com-

munication is difficult enough without such irrelevant and useless exhortations.

Returning to the very brief sketch of the development of the science of linguistics, American anthropologists, even such early men as Boas, found that, to understand the culture of a group of people they were studying, a knowledge of their language was not only invaluable but frequently absolutely essential. To be able to understand how a particular people view the world, themselves, their family and social structures, one has to understand the language which they speak. Not every language views the universe in the same terms. In fact, no two languages view the universe exactly the same, though, as we might expect, closely related languages, frequently spoken by people belonging to the same general cultural type or to closely related cultural groups, tend to have many elements in common. Unrelated languages are structured radically differently and view the world in terms that are also radically different. This notion of the fundamental relationship between language and the world-view of a group of people was principally developed in the United States by two of the early outstanding anthropological linguists, Edward Sapir and Benjamin Lee Whorf, and has come to be known as the Sapir-Whorf hypothesis (though some people would argue that it has been sufficiently demonstrated to merit being called a theory).

A very short definition of the Sapir-Whorf hypothesis would be that the language and the culture of a people constitute a prism through which they view the world. As the light rays are bent and distorted by a prism, so are fundamental experiences of life bent and distorted by language and culture. It is true that there are universal problems of human existence, but what any people choose to do about these universal problems is determined, in very substantial measure, by the culture and the language which is the primary vehicle for that culture. The basic tenets of this hypothesis should be borne in mind throughout the following discussion.

Starting with some of the methods developed by the comparative philologists, anthropologists began to analyze critically the traditional techniques of language analysis, and the method-

ology of modern American linguistics began to be developed. For something over three decades, many of the basic theoretical works in the field of linguistics have been written by people who were also anthropologists. These include Leonard Bloomfield, Edward Sapir, Benjamin Lee Whorf, George L. Trager, Henry Lee Smith, Harry Hoijer, Floyd Lounsbury, Norman McQuown, and Kenneth Pike. Obviously this is not a complete list, and many other linguists who were not directly concerned with anthropology as a discipline were influenced by people such as Bloomfield, Sapir, and Whorf. For teachers of English, as well as for linguists and linguistic theory in general, two of the most important books to come out of the efforts of the American school of linguistics were Charles Carpenter Fries' *The Structure of English* and Trager and Smith's *An Outline of English Structure*. Basing his analysis on a recording of telephone conversations, Fries demonstrated the essential role of word order in the English language. Where Latin and many modern European languages rely heavily on inflectional endings, English relies more heavily on the spatial relationship of one part of a sentence to another. In the sentence "John hit Bill," one of the primary devices for distinguishing the actor from the receiver is the placement of the one before the verb and the other after it. In the case of a sentence having an indirect object in English, the indirect object must immediately follow the verb with the direct object following the indirect object: "John gave Bill money." Professor Charles F. Hockett of Cornell has speculated that if we looked at the grammars of all the languages of the world, we would find that they use either the presence of certain morphemes (such as, but not necessarily limited to, inflectional endings) or word-order arrangements to signal relationships between parts of sentences. Many languages use a combination of both devices. For example, word order is even more heavily restricted in dialects of modern Chinese than it is in modern English, and, as we might expect from this, there are even fewer morphemically marked forms to signal grammatical distinctions. Though other linguists had taken note of the significance of word order in English, it was left to Charles Fries to demonstrate the importance and the basic techniques of word-order arrangement in English. Though Fries has been criticized as

being too traditional,[1] I feel that his work was a major achievement.

Trager and Smith's *Outline of English Structure* gives a definitive description of the sound system and explores in some degree the morphemes of English. As the authors indicate in their preface—and this remark has been curiously missed by some critics—they did not have ready at that time a treatment of syntax which was consistent with their analysis of the other dimensions of English. They did, however, make a few suggestions about how they would approach the field of syntax, including a demonstration of the importance of intonation for grammatical distinctions in English. Some linguists have hailed this early work with intonation as an important contribution to the understanding of syntactic procedures, while others lament the brevity of the authors' attention to syntax. The syntactical and semological treatment of English by Professor Henry Lee Smith, Jr., is now in preparation. It has become popular for the transformational-generative linguists to refer to these works as neo-Bloomfieldian. As Henry A. Gleason has suggested, Fries was more influenced by traditional English grammar, and Trager and Smith's treatment is more completely a break with the past and represents an attempt to describe English strictly according to the principles of descriptive linguistics as these authors understand them.[2] I think the term neo-Bloomfieldian might more appropriately apply to the works of such a linguist as Professor Robert Hall of Cornell University.

For the past decade, applications of a combination of the Fries and the Trager and Smith analyses of English have appeared in various forms intended for use in the public school classroom. Among these have been Paul Roberts' *Patterns of English* and *Understanding English,* and major parts of his *English Sentences.* Neil Postman's treatment of syntax in his *Discovering Your Language* is primarily Friesian. Other popular treatments of English, such as the Lloyd and Warfel *American English in Its Cultural Setting,* drew heavily upon Fries and Trager and Smith. The most popular introductory linguistic

[1] Henry A. Gleason, *Linguistics and English Grammar* (New York: Holt, Rinehart and Winston, 1965), p. 80.

[2] *Ibid.,* pp. 82-84.

textbooks of the past few years, Gleason's *Introduction to Descriptive Linguistics,* Archibald Hill's *Introduction to Linguistic Structures,* Charles Hockett's *A Course in Modern Linguistics,* and Nelson Francis' *The Structure of American English,* all bear testimony, in greater or lesser part, to the influence of Trager and Smith and of Fries. The influence of such books as Robert Hall's *Leave Your Language Alone!* later retitled *Linguistics and Your Language,* of the other books mentioned, of such organizations as the NCTE, and of the U.S. Office of Education have served to interest frequently resistant English teachers in the potential contributions of linguistics to the solutions of their classroom problems. Publishers of school texts were, by and large, reluctant to alter the texts which they were able to sell to the American public school. But eventually, as more teachers demanded them, more and more texts became available; and today most companies are vying with one another to list linguists' names on the cover as authors or consultants. The publishers have become interested not only in having a linguist in their stable but in having the linguist or linguists who are currently most in vogue. It is this point which brings me to the final consideration that I wish to review.

Mention has already been made of the fact that there are several competing schools of linguistic analysis. Two of the early works produced by leaders of two particular views sought to explain linguistics to public school teachers and to provide them with a textbook to use in the classrooms. It should be remembered that there is infinitely more profit for both writer and publisher in a high school or elementary text than there is in a college text. And there is usually no profit in fundamental theoretical works in linguistics or in any other field. Occasionally commercial publishers do go into these kinds of books to add prestige to their list or to accommodate a theoretician who is also working on a text. The pernicious influence lies in the tremendous sums that come from a successful public school text. As publishers will frequently state, they must evaluate a text more on the basis of its profit-making potential than on its intrinsic merits.

As the linguists convinced the teachers and ultimately the publishers that linguistics needed to be included in the English

curriculum, so this innovation has returned to plague the inventors. As publishers have become convinced of the necessity to produce linguistically oriented texts, they have turned to linguists for these texts (or to teachers versed in linguistics), and there has developed a syndrome of selling techniques which emphasizes not only linguistics but the latest brand of linguistics. This will, eventually, be a self-defeating innovation for publishers, because the field of linguistics has arrived at no consensus on the approach that will be the dominant one. For some writers of linguistic texts, the early works of Fries and of Trager and Smith, previously cited and generally labeled structuralist, have been superseded by the transformational-generative view of Chomsky, Lees, Postal, and Katz, to list a few members of this school. But a great many front-ranking linguists have not accepted the transformational-generative approach as a step forward even from the earlier structural approach. There were and are many important differences among the "structuralists" themselves, and no structuralist has used the techniques of analysis which Chomsky ascribes to the neo-Bloomfieldian school.[3] If newness is to be the all-important criterion, then the transformational-generativists have in turn been superseded by newer theories in linguistics. There is now the stratificational grammar of Sydney Lamb, which Professor Gleason feels is very promising, and many of the "structuralists" have developed completely new theories in syntax which are at least a decade more "modern" than Chomsky. Kenneth Pike of the University of Michigan, one of the structuralists who first gained considerable note for his development of phonetic descriptions and phonemic theory, has developed a new *tagmemic* approach (sometimes also known as tagmemic-generative grammar) to syntax. Starting with a tagmemic rather than a transformational approach, he is concerned with the rules for generating utterances in English or any other language. There is at present, then, the *newer* tagmemic-generative grammar as well as the older transformational-generative grammar.

Henry Lee Smith, Jr., has taken the Trager-Smith framework and developed a new approach to morphophonics, mor-

[3] Noam Chomsky, *Current Issues in Linguistic Theory* (The Hague: Mouton, 1964).

phemics, syntax, and semology. This point of view is generally labeled the *aspectual* approach. Like the stratificational approach of Lamb, it is a multidimensional analysis which tries to be more comprehensive in its scope than any of the earlier models. Either or both of these approaches may ultimately represent the most sophisticated linguistic descriptions of English and other languages and may also ultimately prove to be the most useful in the classroom.[4]

I believe that it is misleading to sell books or theories on the basis of the latest fad. These contending points of view should be evaluated seriously and critically. Time, and only time, will determine the ultimate comparative value of the different approaches. The ardent followers of Chomsky or Pike or Lamb or Smith are really only expressing their point of view and their hope. That is all. It has been said that linguists are a pugnacious group, but their pugnacity and disdain for the competition should be taken with some reservations.

A discussion of current schools of linguistics may seem like a departure from the subject. Knowledge of these issues is necessary, however, if the professional teacher is to acquire and exercise some perspective. Some of the new text series start as low as the first grade, and the claims and counterclaims of linguists and their publishers extend down to these levels too. I contend that the *teacher*, at whatever level, exercising his professional judgment must be able to state his preference and the basis on which he has made his choice. If the teacher cannot defend his choice, if he is exercising his option on the basis of someone else's opinion, then he is being an educational clerk, passing on responsibility to hands that he hopes are more capable. If a teacher is not so intimately acquainted with a text as to be able to defend it and its basic premises, in what way can he honestly teach it? Henry A. Gleason has suggested in the preface to *Linguistics and English Grammar* that the average teacher needs four or five courses in linguistics to be competent in the subject matter. He supports his argument with a comparison of the preparation that most teachers feel they need for teaching lit-

[4] The Buffalo English Linguistics Project, which was headed by Henry Lee Smith, Jr., and the writer, has compiled some results indicating the efficacy of the aspectual approach.

erature. Are these teachers to be less competent in their teaching of the language component? The suggested background would allow teachers to evaluate texts and to make reasonable decisions. That some may choose to go with Chomsky while others follow Fries or Smith or Lamb or Pike does not distress me. Nor will it distress their students. Differences of points of view in other fields have long been accepted without disastrous effects.

It is important to remember that no text designed for public school use can possibly be up to date in linguistics. Each of the schools mentioned is actively engaged in research resulting in continual revision in theory. It takes time for a text writer to learn a theory. By the time he translates the theory into a usable text and the publisher has brought that text into print, the researcher has moved on. At best, it will represent research that is two to four years out of date. Presently, most texts, even those claiming to contain "the latest," are a decade to fifteen years behind linguistic research. This should not necessarily distress people. We may safely leave some things for students to learn at a higher academic level.

II

The first thing that the linguist would ask is that the teacher assume a realistic attitude concerning the nature of language. To some this may seem to be such a general point that the immediate reply would be, "Of course I know what language is; I learned that when I was in elementary school." And that is precisely the point. When asked, most teachers, even today, define language vaguely, and what emerges is that collection of myths which in fact they did learn in elementary school and which most of them have never critically examined.

In the so-called reading readiness programs, you frequently read the statement that children come to school without an adequate knowledge of language: that, for instance, they are only able to pronounce one or two "obscure" vowels. In reality, by the time a child is six, he knows not only all the phonemes of the language that are used in his dialect but the major grammatical distinctions and patterns as well. Of course his intellectual sophistication is almost nil; he could hardly list for you the sounds of the language, nor could he parse or diagram a

sentence. But many adults would be equally inept at this task. If a child actually did come to school with only a knowledge of one or two "obscure" vowels, he simply could not talk. To test this, try speaking even the simplest sentences of ordinary speech without distinguishing your vowels, and you will find that in almost every case no communication takes place.

Another prevalent myth among some "reading specialists" is that the child, as he starts to read, must be taught his first words. Again, the child has been using many words for several years, and what he must learn is to associate a configuration of written symbols that represent the words he knows. Of course, after he has begun to read, many new words will come into his vocabulary through writing. We do use writing to distribute knowledge, but the child does not have to be taught his first words; he has to be taught to *recognize* them on the printed page. These two basic assumptions will make a difference in the kind of reading readiness program that a school uses. If it is recognized that a child does know the sounds of his language, does have some vocabulary and most of the basic grammatical patterns, then the reading readiness program can focus on familiarizing the child with the written representations of his speech sounds and with the configurations that represent the words he speaks.

A third all too common myth is that letters are pronounced, that in fact they have "sounds." This is a classic example of a complete reversal of the actual situation. Linguists have been severely criticized for their emphasis on speech in contrast to writing. This emphasis has been necessary for two reasons. The first is that speech is the basic medium of language. Writing systems attempt to record a sufficient number of linguistic (speech) signals to allow the reader to reproduce in his mind the speech of the writer as he was composing. And the reader reproduces the intonational features of language as well as the more or less segmental sounds that he would use in speech. Most of the "thinking" that is done involves the internal use of language. People talk to themselves continually, and as long as the sounds are not actually articulated, credit is given for thinking. If the sounds are articulated, other people may begin to wonder. The second reason that linguists have emphasized the primacy

of speech is that many people have come to think of writing as the primary form of language, and to put the process in proper perspective it is necessary to reemphasize speech. It is not uncommon for some to think of speech as a bastardized form of language while feeling that writing preserves language in a more pristine form. This curious myth may have developed because most of us prepare that which we put down on paper much more carefully than that which we speak. This is both a necessity and a virtue. Because so many of the signals of speech are lacking in writing, especially the intonational features, it is necessary that we exercise much more care in the internal and external arrangement of our "sentences." The most dangerous aspect of this confusion, as far as the teaching of reading is concerned, is that the teacher attempts to have a child "pronounce" the letters of the word as if the letters *had* sounds instead of allowing the written configuration to evoke the oral counterpart in the child's mind, which is the *true nature* of the process of reading.

Writing, then, is a code for speech. It is a symbolization of a symbolization. To be able to read, the child must be taught how to break this code, and to be taught this skill, the child must primarily learn the fact that the English writing system is alphabetic in principle; that is, that letters represent sounds though letters do not *have* sounds. The English writing system especially, with its unique history, has seeming inconsistencies in this regard, and at points there are real inconsistencies, but these are not as great as is sometimes believed. Let me give a brief example at this point. Harold Allen, in speaking to an NCTE institute, pointed out that Shaw's famous example of *ghoti,* as a way to spell the English word *fish,* did little more than reveal Shaw's naïveté concerning the nature of the English spelling system. Let me elaborate. The *gh* combination is never used to represent the *f* sound at the beginning of words, and the letter *o* represents the sound of the short *i* only in the single word *women.* Further, the *ti* is used to represent the *sh* sound only medially in such words as *fraction, nation,* and *patient,* where the *sh* sound is actually the result of the phonetic assimilation of two sounds.

Speech is primary to writing in another important sense. All

physiologically normal people learn to speak considerably before they learn to write; they already know language and only need to learn to decode its written representation.

Another feature common to reading texts criticized by linguists is the use of "unnatural" language. It is true that it is more practical to begin the decipherment process with one or two words at a time, but care needs to be taken that the writing represents normal speech. If children are to become conversant with the code of writing, then they must learn it as a representation of real language.

Another frequently heard criticism is basically sociological rather than linguistic. I am referring to the fact that for generations the readers seemed to represent what has been called the "antiseptic middle class." It is hard to believe that any children could identify with the characters, and the latter probably did constitute a real barrier for the children of ethnic minorities living in the slums. Would it be possible for these children of our urban blight to identify with reading as something for them, or would they find further evidence, in the texts themselves, of a world that was hostile to their well-being if not to their very existence?

One reading series, coauthored by a prominent linguist, found the solution to this problem by using animals in the early part of the series and children patterned after realistic humans, even ethnic minorities, in the later texts.

Another issue, not primarily linguistic, has concerned the use of pictures. Some texts use pictures to tell the story, thereby diminishing the motivation to break the code. One linguist's answer has been the careful use of pictures to *supplement* but never to *tell* the story. Another prominent linguist has chosen to eliminate pictures entirely from the series on which he is collaborating.

The linguist, then, assumes (and this assumption is verified by experience) that children already know their language in considerable detail and that what they need to be taught is the code which is a representation of their speech. Most linguists feel that the most efficient way to do this is to lead children to discover the relationship between the written symbols and the

language they speak. There is some disagreement, even among linguists, as to how this may best be done.

Linguists have been accused of ignoring the problem of reading for meaning. Actually they have been focusing attention on the initial stages of the reading process where they felt the nature of the job was being confused by a lack of understanding of the nature of language. No linguist denies the importance of reading for meaning; he simply believes that no child can be taught to read for meaning if he cannot read at all.

III

It is now necessary to look at some of the features of language to better understand the nature of the decoding process. One feature frequently forgotten by designers of reading texts and by traditional grammarians is the intonational system. This system is one of the most important devices of grammar, and it signals many distinctions obvious in speech but relatively obscure on the written page. The punctuation system does attempt to signal some of the most important intonational features, but if spelling has been justifiably criticized for inconsistency, then punctuation, as a reflection of intonation, must be awarded an even lower grade.

Let us first look briefly at some of the characteristics of the intonational system in English. A word such as *elevator* or *operator,* spoken in isolation (which they seldom are), demonstrates three of the four degrees of stress in English. In each word, the primary stress falls on the first syllable. One of the medial stresses, called tertiary stress, falls on the third syllable. The second and fourth syllables take weak stress. If these words occurred in a normal speech situation in a phrase, the primary stress of one of the words would be reduced to secondary. In a phrase such as "He's an elevator operator," the primary stress would fall on the first syllable of elevator, with the reduction of the primary stress to the secondary on the first syllable of *operator* accomplished through the operation of what Professor George L. Trager called the *superfix.* The superfix is the arrangement of stresses and junctures which hold words together in phrases. Any word spoken in isolation receives a primary stress,

but as words are joined in phrases the primaries are reduced to secondaries, tertiaries, and weak stresses. The use of different superfixes frequently signals different kinds of syntactic relationships. For instance, blackbird, blackboard, and White House, said with the primary stress falling on the first word and a tertiary stress on the second, signals that these are compounds—that the speaker is thinking of them as one unit. (These superfixes would be called *lexical*, because they serve to bind items that we consider single lexical items.) If these same words are spoken as black bird, black board, and white house, with a secondary on the first word and a primary on the second, then they become adjectives preceding nouns, and a different meaning is signaled to the listener. (These latter would be called *tactical* superfixes because they serve to bind into a phrase items that we would not consider single lexical items.)

Some common proper noun compounds reverse the stress arrangement: New York, Long Island, and New Jersey, but note that Long Beach keeps the first pattern. Even with this reversal, however, it is still easy to distinguish the compound noun pattern from the adjective-noun sequence, as in the sentence "Long Island is a long island."

The implications of intonation for reading are several, but one, the basic one, needs to be considered at this point. It is traditional to define the English language as composed of twenty-six letters and the words as made up from these letters. We have dwelt on the primacy of speech, but the other dimension of language is not simply words made up of letters or sounds. Because dictionaries traditionally define words, we have come to the naïve conclusion that words carry all of the meaning in language. In fact, all of the systems of language contribute to the meaning. It is true that single sounds or phonemes do not carry meaning, but neither do words alone. As some of our previous examples have shown, intonation frequently modifies or even changes radically the meaning of a statement.

It has been traditional to recognize that parts of words, such as prefixes and suffixes, can modify the meaning. (These are called *morphemes* in linguistics, but they are not the only kinds

of morphemes that exist in English.) The linguist agrees with this but must also point out that in English even the word order contributes an important element to the total meaning of an expression. As an example, take the three words *hit, Bill,* and *John.* If we arrange them one way, "John hit Bill," we have one meaning; if we change the order, we change the meaning, as in "Bill hit John," or "Hit Bill, John," or "Hit John, Bill." So with the same words, having the same dictionary meaning, we can arrive at four separate utterances with four separate meanings by changing the word order and the intonation (as suggested by the punctuation in the last two examples). Words, by themselves, don't have meaning; they have an important role to play in communicating meaning, but they are as dependent on the other systems of language as the other systems are dependent on them. The social context too may radically affect the meaning. If you hear the expression "It's cool" said on a cold day by some one who has just entered a building, the meaning is obvious; but if these same words, even with the same intonation, are uttered by teenagers as they examine a Jaguar, the meaning is obviously different. So too with the use of gestures and facial expressions: we may call our best friend a rat in such a manner and with such an expression that he is no longer our friend, or it may, with appropriate gesture and expression, be a term of friendship. These factors need to be considered when people are trying to encourage "reading for meaning" or conducting vocabulary drill.

No one talks in the artificial manner of the classic primers, and, if the child is to learn to recognize familiar experiences on the page and if he is to evoke the oral counterparts of familiar words and expressions, then the language of the readers must be natural language. Though the sentences may be short and the vocabulary simple, the result must resemble normal human speech that the child has heard.

There is another closely related aspect. Some words are pronounced with different vowels if said under primary stress than if they are said under weak stress. One example would be the article *the.* (Unfortunately, the situation I am about to describe does not universally apply to all speakers. Like all aspects of language, humans invented language and therefore are free to

change it at will, even when this "will" is exercised unconsciously.) If this word is said with a primary stress, the vowel will rhyme with *me*, *fee*, and *sea*. If it is said under weak stress, it will still rhyme with the same words if it is followed by a vowel at the beginning of the next word, as in *the* + *alphabet* or *the* + *afternoon*, but it will be the same vowel that we find in words such as *but* or *out* if the following words begin with a consonant, as in *the* + *morning* or *the* + *dark*.

Another example would be words such as *photograph*. If this is pronounced with an artificial deliberation, then the middle vowel will always rhyme with *toe* or *show*, but in the normal rapid speech of most people, it will be the same vowel sound as appears in *but* or *out*.

To build a proper association between speech sounds and their written representation, the child must encounter the words in normal intonation. He must not be allowed to read each word in isolation. Such reading will obscure the meaning that teachers are so concerned with, because the child will fail to relate it to the linguistic learning experiences which he has undergone since birth. It will slow the development of the association of the written code as that which must evoke an internal and usually not articulated oral response.

The designer of reading texts, as well as the teacher of reading, should have at least an elementary technical knowledge of English intonational features to be able to produce and encourage normal fluent linguistic development rather than a stilted language based on an utterance of each word as if it were a separate entity.

To briefly consider a problem of spelling, some teachers fall into the habit of pronouncing words with double medial consonants such as *little* or *hammer* as if they were two words, with a /+/ separating the two consonants. The teacher then convinces herself that this is the correct pronunciation, and what started out as a teaching aid becomes a language myth resulting, quite possibly, in the creation of one of two potential problems for the child. Either he will learn a stilted artificial pronunciation of some words, or he will fail to spell some words with double consonants correctly if they are not pronounced in this

artificial manner. Yet the double consonant in words such as these was never meant to be pronounced; it is a fairly regular spelling convention indicating that the preceding vowel was a short one.

The next consideration takes us to the heart of the reading process, the relationship between the segmental sounds of English and their graphic relationship. The English writing system is alphabetic in principle; that is, each of the significant sound units is represented by a letter or a combination of letters. After this assertion is made, we become concerned with the regularity of the representation of each sound unit, technically called a phoneme, by a unit or combination of units of the writing system, usually called a grapheme. It has become almost classic to expose the irregularities of the English spelling system. Shaw was concerned with this, and it has been of major concern to many reading specialists, some of whom feel that it is this irregularity which is at the root of some of the difficulties encountered in learning to read. Others believe that this irregularity at least contributes to the spelling difficulties which are rather common among English speakers. Probably the best documentation of the way in which each English sound is represented by various graphemes can be found in Robert Hall's *Sound and Spelling in English*. This little monograph lists for each phoneme all possible spellings and for each grapheme all of the phonemes it may represent. A quick glance at the charts might well produce the response of wondering how anyone learns to read and write in English. Hall himself suggests that there is greater pattern regularity than such a listing suggests, and our purpose is to explore the patterns and the regularities in some detail, for they suggest some approaches which could expedite the reading and spelling processes.

One such early exploration of the regularities of English spelling was published by the linguist Edith Crowell Trager in 1957 in *College Composition and Communication*. Henry Lee Smith, Jr., has asserted for years that the majority of English words, probably around 85 percent, are spelled by patterns, though these patterns are not necessarily based on a simple one-to-one relationship between phoneme and grapheme. The 15 percent or so of the words which do not follow a pattern occur

probably 85 percent of the time. (I would not seriously defend the exact percentages quoted, and neither would Professor Smith, for it is extremely difficult to measure the exact frequency of the occurrence of certain words for the population as a whole.) This frequency of occurrence of irregularly spelled words is primarily a virtue because, since we see them often, it is easier to learn them by rote where learning by rote is necessary. Dr. Julian Granberry, now of Florida Atlantic University, found when he was working with the Buffalo English Linguistics Project that most of the very irregularly spelled words do occur in writing either very frequently or extremely infrequently. His research included endless hours with the unabridged dictionary and various written texts studying the frequency of word occurrence and the regularity or irregularity of many of the so-called "spelling demons."

Within the last few years there has come on the linguistic horizon a fundamental discovery that has moved our understanding of the function of language to new levels. This discovery has more implications for the understanding of the spelling system and hence writing and reading in general than any since the clear articulation of the phoneme. Two linguists have stated this discovery more clearly than any other men in the field, and though they are not at the same level of understanding their own discovery, they have arrived at basically the same point. The concept is called the *morphophone* by Henry Lee Smith and the *linguon* by David Reed. In most texts on linguistics there has been a level of analysis, generally sketchily treated, which has been called either the morphophoneme or morphophonemic alteration.

Most linguists have stated that the morphemes of the language are composed of phonemes but have used a brief chapter on morphophonemics to list the problems involved in this concept. One definition of the morpheme is that it is the smallest unit in a language that can carry meaning or grammatical significance. In paired words like *boy-boys, book-books, match-matches,* the second items in these groups would be generally said to be composed of two morphemes each: the base, which is itself a *free base* (that is, it can occur by itself as a lexical item in the language), and the inflectional suffix indicating plurality.

Words like *finish* and *punish* would also be composed of two morphemes each. The bases would be "bound" ones, *fin-* and *pun-* and a designative affix, *-ish,* needed to complete the lexical item. (A bound base is one that cannot occur by itself as a lexical item but needs an affix before it can occur.) The problem, usually described as morphophonemic alternation, concerns such words as *profound-profundity* and *insane-insanity* where, through the addition of another morpheme, changes occur in the base morpheme. It would be useful to examine the phonemic composition of these examples, and their variants /prowfawnd-prowfənditiy/ and /inseyn-insænitiy/. Most speakers of the language, as well as most analysts, would agree that the bound base /-fawnd-/ and the bound base /-fənd-/ are the same morpheme and that the free base /-seyn-/ and the base /-sæn-/ are the same even though their basic phonemic composition and, in one case, the graphemic representation have changed. Linguists have tried to account for these variations in morphemes. But there are other kinds of problems as well. If we examine a common lexical item such as *round,* we will find that in one dialect it will be pronounced /rawnd/ (perhaps the most common pronunciation), in another /ræwnd/ (a pronunciation common through large parts of the South), in another /rəwnd/ (common in Toronto, among other places), and in a fourth /rewnd/ (common in Tidewater Virginia, among other places). All of these pronunciations are different, but the speakers of one dialect are able to calibrate for the differences and understand the speakers of other dialects. Professor Smith suggests that there is an intermediate level, a very essential level, between that of the phoneme and the morpheme; this is the level of the morphophone. The morphophone, then, is composed of a group of dialect variants (each of which are distinct phonemes) that serve the same purpose in the composition of a morpheme, and the morpheme is composed of morphophonic units rather than of phonemes. In the last example presented, the four dialect variants are all equal, and a formula could be written prescribing the possible phonemic variants, one of which must be used in the phonemic expression of the morpheme *round.* Which variant is chosen is determined by the dialect of the speaker, and, if a particular dialect selects the /aw/ vowel glide, it will exclude the other

three from any use within that dialect. A dialect which selects the /ew/ glide will exclude the other three from any use.

Another example of phonemic variants of a morphophonic unit would be found in the pronunciation of words such as *spoon* and *moon*. In many dialects, including mine, these would be pronounced with the /uw/ vowel glide. But in many parts of Florida, the /iw/ glide is used in these words. The /uw/ and /iw/ are both dialect variants of a single morphophonic unit which is needed to compose words such as those used in the example. Again, speakers who use /uw/ will exclude /iw/ from their dialect and vice versa. The morphophones of the language are composed of different but equivalent phonemes, limited in the range of choice, which can be used to compose the limitless morphemes of the language.

The other type of process, the one that occurs in such examples as urbane-urbanity (/irbeyn-irbænitiy/) would now be called *morphophonic replacements;* that is, a predictable change in the composition of the base morpheme would occur in the presence of the addition of the affix *-ity* (/-itiy/). This replacement might take a different phonemic shape in another dialect, but it would be the replacement of the same morphophonic unit by the same morphophonic unit in the presence of the same morpheme. In the morphophonic replacement that occurs in *profound-profundity*, pronunciation in my dialect would be /prowfawnd/ being replaced by /prowfənd-/ when the /-itiy/ was being added. In most southern dialects it would be /prowfæwnd/ being replaced by /prowfənd-/ when the /-itiy/ was being added.

There are, additionally, *morphophonic interchanges.* The interchange is simply a free interchange between two morphophonic units, not strictly governed by dialect choice but rather by a choice open to the individual. For instance, in my dialect you will hear both /ayðir/ and /iyðir/ for *either.* (I always say the latter, but either is permissible in the dialect, whereas in the case of dialect variants of morphophonic units, the dialect that selects the /aw/ unit for morphemes such as *house* excludes the other possibilities, such as /hæws/, /hɔws/, or /hews/.) The phonemic components of the basic morphophonic units are binding on all speakers of the dialect, whereas the interchanges are

not. The only instance where the dialect variants are not binding is in the situation where there is a mixture of dialects in the individual ideolect of a speaker. For instance, President Johnson will vary between /wayt+haws/ and /wayt+hæws/. This would not have been true of his speech before he came to Washington, D.C., so many years ago. He would have always, predictably, said /wayt+hæws/. Other examples of free interchanges are /rawt-ruwt/ for *route*, /huf-huwf/ for *hoof*, /krik-kriyk/ for *creek*, and /towmeytow-towmahtow/ for *tomato* in the phonemic expressions of my dialect. Again, these interchanges will always take place in the phonemes of the individual dialect. In upstate New York the two possibilities of interchange for *route* were the ones listed, /rawt/ interchanging with /ruwt/, but in Florida the phonemic expression would be /ræwt/ interchanging with /riwt/. The same morphophonic units are interchanging in both dialects, but the *phonemic expression* of each morphophonic unit is different according to the dialect pattern.

I have been discussing Smith's concept of the morphophone. Reed's concept is very similar, but he states that this morphophone, or *linguon*[5] as he calls it, can be discovered from writing as well as from speech. Reed asserts that it is the discovery of this level of language which enables the deaf person to grasp language as a system and to use it for communication.

Smith applies this concept in a very interesting fashion. Though English spelling is alphabetic in principle (that is, it is based on a phoneme-grapheme correspondence which is incomplete and inconsistent), it is based in practice, since the invention of printing and widespread attempts to standardize spelling, on a correspondence between morphophone and graph, especially in the past century as spelling has become more standardized. Most English teachers are aware that in Old English times, and even in Shakespeare's time, many spellings were not consistent and frequently reflected the dialect spoken by a particular scribe. This is no longer true, and most people are aware that even though we pronounce the same words differently in different geographic areas, we usually spell them the same.

[5] Reed discusses the linguon in an article prepared for Priscilla Tyler's volume on linguistics and reading, which is to be published by a joint NCTE-IRA Committee.

This application of the concept of the morphophone, which encompasses dialect variations within it, enables us to see a much greater consistency in English spelling than if we look at this same correspondence as a comparison between the phonemes of various dialects and their graphemic representation.

The convention for writing morphophonic units is to take the phonemic shape of the variant that occurs most widely and to use it as the morphophonic symbol, placing a period after it to remind us that the morphophonic unit /aw./, for instance, stands for *all four* phonemic expressions, /aw/, /æw/, /ɔw/, and /ew/, according to the dialect being spoken.

Further, as suggested by Professor Granberry in the Buffalo English Linguistics Project materials, there are several traditions of graphemic representation for the morphophones of English. There are still many words which follow, with little or no variation, their Old English pronunciation. One example, *knight,* made sense in Old English times when it had no "silent" letters. This pattern, though it is an archaic spelling, is nevertheless not a random one, and the child must learn to recognize this as one of the ways of representing certain morphophonic units in English. There is another common pattern, as in words like *beauty,* which represents a modification of the French spelling system that was the origin of these words. Borrowings from many languages would have to be included in this second spelling tradition. Finally, there are words such as *mite* and *cite* which represent a standardization which has been applied to some, but unfortunately not all, words since the invention of printing and the spread of literacy. Students must be taught to recognize each of these patterns, and though this does make the problems of reading and spelling more difficult, it does not make them impossible if the textbook writers and the teachers of reading and spelling can understand the basic relationships between the English sound system and its graphic representation.

A further consideration of many of the points discussed in this paper is available in Dr. Smith's new monograph, ***English Morphophonics: Implications for the Teaching of Literacy,*** published by the New York State English Council and available by

writing to the Council at the State University of New York, College at Oneonta.

English has both homographic (two sounds represented by one symbol) and heterographic (two symbols for one sound) writing. It is Smith's view, based on his experience with the construction of readers, that the heterographic writings do not constitute a special problem. Children seem to be able to accept the concept that two symbols may stand for the same sound without this destroying their faith in their understanding of the alphabetic principle. What seems to be destructive or confusing is the introduction of homographic spellings. These seem to undermine the student's faith in his ability to discover the logic of graphemic representations.

Smith feels that the problem of homographic writing can best be handled by first presenting one pattern of graphic representation for certain morphophonic units and reinforcing this learning well before introducing the same symbol or symbols as a representation of a different sound or units. This does require some restrictions in the vocabulary available to the writer of primers, but it is not a severe restriction and can be overcome without resorting to stilted writing. This presentation of the consistencies of the graphemic system, rather than its inconsistencies, obviates any necessity for recourse to such intermediate steps as first introducing the student to an initial teaching alphabet of any kind. Even though it may be easy for students to learn to use an artificial alphabet, there is no practical function performed by such a step if the presentation of the spelling system is manipulated in the early books to present its consistencies first and inconsistencies later.

I would recommend a careful study of Smith's analysis of the English spelling system to all teachers of reading and spelling. It will be rewarding in providing the background for a better understanding of the multitudinous and varied problems encountered daily in the teaching of these subjects. Further, it will provide a basis for evaluating and adapting various approaches to the individual classroom situation. This should be a basic standard for effective teaching.

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LINGUISTICS AND READING, ONCE MORE

DAVID W. REED
University of California, Berkeley

DURING THE LAST few years, some linguists, some teachers of reading, and some supervisors and trainers of reading teachers have assumed that the science of linguistics may be of assistance in the construction of reading materials and the planning of classroom activities in reading instruction. I will confess to being a linguist who has held the conviction for many years that my science has several vital messages for those whose endeavors are related primarily to reading instruction. I have, however, come to realize, perhaps too slowly, that, even if my assumption is correct, it is by no means clear what linguists should do in order to be of maximum assistance to reading people.

It has always seemed to me that fruitful applications of science are likely to be made, not by the scientist whose speculations have produced new theories and whose observations and experiments have led to verification of those theories, but by the practitioner of the art (in this case, reading instruction) to which the science may be applied, who is aware, in a manner and to an extent that the scientist can never be, of the practical needs of the field of application. It follows that the practitioner who wishes to serve his field in the capacity of applied scientist is under an obligation to inform himself as thoroughly as possible on the basic theories of the science he will seek to apply,

and on their detailed consequences. It is here that the pure scientist ought to be of maximum assistance, and it is here that the question of "how" presents itself most acutely.

A special institute was held in Minneapolis in February 1967 for NDEA summer institute instructors in the language component of English, reading, teaching English as a second language, and programs for the disadvantaged. I will not attempt to evaluate this institute, but my experiences there will be the basis of this paper.

My awareness of problems in the relationship of linguistics to reading is quite incomplete, since it is based largely on oral feedback from the representatives of summer reading institutes in the course of our sessions at Minneapolis. The first apparent problem is that the discussions were too advanced for some participants and too elementary for others. Such a problem is all too familiar to elementary and secondary school teachers, who must try to deal with classes in which IQ's range from 80 to 150, and to university professors, who teach courses that attract students ranging from freshmen to graduate students and including both majors and non-majors. In the particular case of reading people, it might be suggested that as more and more of them acquire advanced knowledge of linguistics it will prove profitable or even essential to provide several levels of discussion, based on previous backgrounds in linguistics. This does not necessarily mean that the most advanced will profit from hearing debates on linguistic theory, even though they may be able to understand such discussions perfectly well.

A second problem noted at Minneapolis was that the discussions had little relevance to the work of summer institutes for reading in *secondary* schools. It is my personal belief that, except to the extent that the reading teacher at more advanced levels is concerned with the entire language arts program, and with the probable exception of teachers of remedial reading, linguistics is utterly irrelevant to advanced reading instruction. Almost every linguist who has addressed remarks to reading teachers has attempted to distinguish between those aspects of reading to which he thinks linguistics is pertinent and those to which he thinks it is not. Charles C. Fries refers to the first

aspect as "the transfer stage." I have called it *beginning* as opposed to *advanced* reading. Paul Bell of the Dade County (Florida) Department of Public Instruction, himself a supervisor of reading instruction rather than a linguist, has perhaps the best set of terms. He calls those aspects of reading to which linguistics may be applicable the "process of reading" and those to which it is probably not applicable the "uses of reading."

The continued insistence of linguists on making such a distinction and the stubbornness of reading people in resisting it are presumably rooted in deep philosophical differences between linguistics and professional education. Since this point is a source of so much confusion and failure of communication between the two groups, I should like to examine it, even though such an excursion may smack of theoretical discussion.

Although they may use different terms, most linguists whom I know and a few reading people who have been influenced by linguistics would accept the definition that the process of reading consists of identifying linguistic forms—that is, grammatical constructions and the words and word-forming elements of which they consist—by means of viewing the graphic symbols (letters, marks of punctuation) by which they are conventionally represented. Linguistic forms have meanings; thus, if a person has really read a sentence, he is usually, but not always, able to understand it. It is easy to imagine a sentence that one can read adequately without understanding. Here is an example, composed on the spot: "Space is finite and curved, but unbounded and constantly expanding." Notice that when I say I can compose and read such a sentence without understanding it, I am claiming far greater competence than that of a phonograph needle that reacts in a predictable, mechanical way to the grooves of a record or than that of a parrot who might be trained to mimic the same sentence perfectly. I am saying that I can give a reasonably detailed analysis of the syntax and word composition of this sentence according to any of several systems that may be selected and that I can give dictionary-type definitions of all the words. Most native speakers of English who are not linguists would possess all or most of this knowledge intuitively but might be unable to discuss it. Both the linguist and the

non-linguist native speaker can read the sentence without understanding it, as witnessed by their inability to discuss its content in a way that would be remotely satisfactory to a physicist.

Now I am going to state some opinions that you may prefer to treat as prejudices. If they are prejudices, they are shared by most academic members of university communities, if not by many professional educators.

First, with the apparent exception of remedial reading, which is by definition not "advanced," and with the possible exception of speed reading, there is no such thing as advanced techniques of reading. Any normal child ought to master the *process* of reading by the end of the second grade, which is to say that he ought to be able to understand, through viewing its written representation, any sentence that he would understand if it were spoken to him. From that point on, his education ought to be concerned with the uses of reading, which is just another way of saying it ought to be concerned with enlarging his knowledge of himself and the world he lives in. Teaching the uses of reading can be properly accomplished by teachers of literature, history, mathematics, science, and the other subject matter disciplines. Teaching advanced reading or the uses of reading as if it were a process or a set of techniques ought to be abandoned in reputable schools.

At this point you may feel that a factor which inhibits profitable dialogue between linguists and reading people is the tendency of the linguist to get excited and make dogmatic statements. And perhaps you are right. In any event, I shall try to be more moderate in the remainder of this paper.

I should like to turn now to the topic that interests me most about the meeting in Minneapolis, namely the typical classroom problems to which linguists and reading people alike think the science of linguistics may be relevant. It was found that these problems could be readily grouped under three headings: the correspondences between speech and writing, the recognition of grammatical structures in reading, and the relationship of the student's dialect to his progress in reading.

I do not propose to say very much about the first of these topics, the correspondence between speech and writing, since my views on this matter have been extensively published. I was first

asked to discuss the topic in a paper delivered at a preconvention workshop of the International Reading Association in Detroit in May 1965. When I discovered that I had too much to say on the subject to crowd into one twenty-minute talk, I was allowed to present the second half of the paper at the November 1965 meeting of the National Council of Teachers of English in Boston. The first half of the paper was published in the December 1965 edition of *Elementary English*, and both parts were reproduced in the volume *Highlights of the Preconvention Workshops on Linguistics and Reading*. If you have a taste for linguistic theory, I can still recommend in good conscience that you read the first part of this article. The second part, I soon came to realize, was too technical to be helpful to the audience to whom it was addressed. And whatever virtues it may have possessed were systematically eradicated by the typographic eccentricities of the *Highlights* volume.

Briefly, my view of the correspondences between speech and writing—often mistakenly labeled "phoneme-grapheme correspondences"—is that neither speech nor writing depends directly on the other but that they are indirectly related by virtue of the fact that both are representations or actualizations of linguistic forms. Consequently, if we try to state the correspondences directly, exceptions are so numerous that the best we can get is a fairly high correlation between spoken and written symbols. That is what is, in fact, meant by the statement that the spelling of English words is about 80 percent regular. Viewed as representations of English linguistic forms, however, both speech and writing are perfectly regular. They would have to be or else we could never understand one another. Generally speaking, fewer rules are required to convert English into writing than into speech, which is to say that the graphic rules have greater generality than the phonological rules. In the popular sense of the word "regular," English writing is more regular than English speech. This comes as a shock to many persons, among them a great many linguists.

The practical consequences of this view of the relationship between speech and writing is that it is equally wrong to try to teach the process of reading *either* by the "look-say" method, which assumes that there is no relationship between speech and

writing, that every graphic configuration is a "sight word" to be memorized, and that the only linguistic control that needs to be exercised in constructing reading materials is a control on the number of new vocabulary items; *or* by the "phonic" method, which assumes that there is a simple and direct relationship between sounds and letters, so that children should be encouraged to "sound out" new words, letter by letter, and to memorize rules that have many exceptions in dealing with sound-letter correspondences. Furthermore, if neither look-say nor phonic methods of reading instruction are based on a defensible theory of the relationship between speech and writing, it makes no better sense to employ *both* methods in one course of study, as the majority of basal readers now do. Such a procedure merely lends variety by being wrong in different ways at different times.

Most linguists who have looked into the matter are in agreement (1) that the introduction of new spelling patterns should be carefully controlled, (2) that a few "sight words" are necessary at all stages, (3) that introduction of new vocabulary items has been too rigidly controlled in the basal readers, with a consequent tendency toward boring and unnatural repetition of familiar words, (4) that "sounding out" words is at best unnecessary and at worst harmful to the acquisition of reading fluency, (5) that memorization of rules of phoneme-grapheme correspondence is not helpful and takes time away from more important activities, and (6) that if children are presented with patterned reading materials they can be expected to learn the patterns inductively and largely unconsciously. Most linguists also recognize that there are many problems in arranging the order of reading materials to which linguistics cannot, by its very nature, provide solutions. Psychological experiments dealing with these problems hold out the best hope for satisfactory theoretical answers.

Let me make one final point before I leave the subject of the correspondence between speech and writing. In attempting to achieve the values I have enumerated above, there is no reason why reading materials constructed in accordance with linguistic principles need to ignore other non-conflicting values that have emerged from the experience of reading teachers over

the years. One such value is story interest. There is no conceivable reason why this value cannot be cultivated within the framework of controlled spelling patterns. Indeed, story interest ought to be easier to achieve in such materials, since the vocabulary is not so severely limited.

I realize that some reading textbooks that are labeled "linguistic" seem to have forgotten all other values in the pursuit of spelling pattern control. Such sentences as "Dan can fan Nan" now bid fair to replace "Oh, oh, oh. Look, look, look" in the ridicule of teachers, students, and the general public. I would suggest that there is an important difference between the sentences, however. "Dan can fan Nan" is a grammatically well-formed English sentence. It is statistically infrequent, perhaps, in that sentences in which all the words rhyme seldom occur; but then again, all English sentences are statistically infrequent. "Oh, oh, oh! Look, look, look," on the other hand, is clearly aberrant. As my now adult daughter said when she threatened to become a second-grade dropout because she was required to read *Dick and Jane*, "Nobody talks like that." One can imagine interesting contexts into which the first sentence might be fitted without calling attention to itself (for example, Dan is pitching and Nan has come to bat with the bases loaded), but no such contexts can be imagined for the second.

Let us consider next the second type of classroom problem brought up by the reading teachers—that of recognizing grammatical structures in reading. This problem is often not recognized for what it is. If a child reads every word in a sentence as if it were an item in a list, a linguist would say that he has not identified such grammatical structures as noun phrases, verb phrases, and sentence adverbials. Reading teachers seem to make one of two assumptions—either that the problem is one of elocution, in which case the child will be exhorted to "read more naturally" or to "read the words as if talking to a friend," or else that the problem is one of understanding, in which case the advice will be to "think what the words mean as you read." Both of these assumptions are correct as far as they go. The child's oral reading *is* faulty as regards intonation, and he probably *has* failed to understand any sentence that he reads as if it were a list of syntactically unrelated items. But both of these

facts are merely superficial symptoms of an underlying failure to identify grammatical structures.

Grammatical structures are often signaled differently in speech and in writing. Sometimes a structure is signaled consistently in one mode of representation but not in the other. Let us take as an example the English question. All adult speakers of English will acknowledge that some English sentences are questions—that is, sentences that require a different kind of response from statements, commands, and exclamations. Therefore it is essential to be able to identify those sentences that are questions, whether one is listening to spoken English or reading written English. In reading a sentence aloud, one must be able first to determine from the graphic signs whether or not it is a question; then he must, assuming that it is a question, be able to encode this information into suitable phonetic signals as he reads. At the heart of the matter is the recognition of the *question* as a grammatical form. Secondary are the associated graphic and phonetic signals.

Let us consider how the fact that a sentence is a question is signaled in English writing and speech. First of all, since words almost always occur in the same order in both systems of representation, certain devices of word order are the same in both. (One exception is "$5.00," which is read "five dollars.") Most English questions employ one of the following devices: (1) Inversion of subject and auxiliary (or a finite form of *be* or *have*): "Is the boy hitting the ball?" (2) Insertion of *do* before the subject: "Does the boy hit the ball?" (3) Replacement of the subject with *who* or *what*: "Who hits the ball?" "What causes rain?" (4) Replacement of modifiers of the subject with *which* or *what*: "Which (or What) boy hit the ball?" (5) Replacement of an element other than the subject by a word beginning with *wh-* (also *how*). The *wh*-word then begins the sentence, and the auxiliary (or a finite form or *be* or *have*) is inverted with the subject, or else *do* is inserted before the subject: "What is the boy hitting?" "What does the boy hit?" "When does the boy hit the ball?" It is interesting to note that, with three rather unimportant exceptions, one is able to determine from the first two words of spoken or written English whether or not a sentence is one of these five types of question.

That is to say, sentences that begin either with an auxiliary of a finite form of *be* or *have* followed by a noun phrase (the beginning of which is consistently signaled) or else with a *wh*-word followed by an auxiliary or a verb are almost always questions.

The three minor exceptions I have encountered are, first, when the sentence begins with a directly quoted question or, in grammatical terms, when an initial clause that is a question is embedded in a main clause that is not. For example, "*Who hit the ball?*" *he asked.* In writing, the fact that the whole sentence is not a question is immediately signaled by the opening set of quotation marks. In speech this fact is not signaled until the word *he* is reached. Then, if the question clause is imbedded in a main clause, *he* begins on the same pitch level (pitch *one* or lowest pitch) with which *ball* ended. If, however, *he* begins a new sentence, it gets a slightly higher pitch (level *two*), which is the normal starting point for sentences. "[2]Who hit the [3]ball[1]?" [1]he asked.[1] ↘and "[2]Who hit the [3]ball[1]?" [2]He didn't [3]know.[1] ↘A doctoral dissertation by Samuel Stone under the direction of Walter Loban at Berkeley several years ago demonstrated that if these two utterances are pronounced naturally and recorded on tape, and then everything after *he* is erased from both utterances, tenth grade students can unerringly determine whether or not *he* begins a new sentence. It should also be noted that in normal speech there is no difference in the length of pause between the two utterances.

The second minor exception to the observation that a native speaker can identify sentences as questions after hearing or reading the first two words occurs only with questions of types (3) and (4) above—questions in which the subject is replaced by *who* or *what* or a modifier of the subject is replaced by *which* or *what*. Sentences beginning in this manner may have the initial clause imbedded as an indirect question in a main clause—for example, "Who hit the ball is of no consequence." "Which boy hit the ball is unimportant." In listening to speech, one cannot tell until he hears the intonation of *ball* whether or not the first clause is an independent question. If the pitch drops all the way to level *one* (characteristic of sentence endings), the clause is an independent question. If it drops only to pitch level

two (characteristic of the ending of sentence parts), the clause is an indirect question imbedded in a main clause. In reading, one must wait to see whether there is a question mark, on the one hand, or a verb or an auxiliary, on the other, to know whether the first clause is an independent question or an indirect question imbedded in a main clause. The very infrequent occurrence of this postponed identification of the sentence as a question is seen in the fact that postponement is not necessary for questions of types (1), (2), and (5). With types (1) and (2) the independent question begins with an auxiliary or a finite form of *be, have,* or *do.* The corresponding indirect questions imbedded in main clauses begin with *whether.* Thus, "Can the boy hit the ball?"—but "Whether the boy can hit the ball is doubtful." In independent questions of type (5), the *wh*-word is followed immediately by an auxiliary or a finite form of *be, have,* or *do.* The corresponding indirect questions begin with a *wh*-word followed by the subject. Thus, "What did the boy hit?" —but "What the boy hit is unimportant."

The third and final exception to the ability of the native speaker to identify questions after hearing or reading the first two words occurs in sentences beginning with *do* or *have* (but not with other inflected forms of these words) followed by a noun phrase headed by a plural noun (but not a pronoun). Certain commands may begin in the same way: "Do your lessons seem difficult?" versus "Do your lessons." In such cases it is necessary to postpone identification of the sentence type until it is noted whether the noun phrase is followed by a verb (in which case the sentence is a question) or whether it ends the sentence or is followed by something not a verb (in which case the sentence is a command).

We have now seen that, both in listening to spoken English and in reading, it is possible in most cases to identify as questions sentences of the five types discussed (which probably account for 99 percent of all English questions) solely on the basis of word order and usually after noting the first two words. Only rarely is it necessary to resort to punctuation or intonation, although these devices are often present as redundant features that permit identification of questions if the word order cues have been overlooked.

Before leaving the subject of question identification, it would be well to examine the function of punctuation and intonation and their interrelations, which are by no means as simple as is often supposed. The function of the question mark in written English, however, is simple and straightforward. The question mark is used at the end of independent questions and, along with quotation marks, of directly quoted questions imbedded in major clauses. It is not used at the end of any other type of sentence or clause, including indirect questions. The function of intonation is a trifle more complicated. The general public and English and reading teachers alike often suppose that any sentence or clause punctuated with a question mark is read with rising intonation. This is most emphatically not the case. Questions beginning with *wh*-words—types (3), (4), and (5)—are normally read with *falling* intonation in all dialects with which I am familiar. Questions of types (1) and (2)—those that may be answered "yes" or "no"—are read with *rising* intonation by most speakers of American English but again with *falling* intonation by a majority of speakers in the northern Middle West. In these yes-or-no questions, intonation may also be used nongrammatically to express the attitude of the speaker toward the situation about which he is communicating. Thus, in most of the country, the use of falling intonation on a yes-or-no question is considered brusque. Northern Middle Westerners are often taken to be impolite in other parts of the country when they use their normal intonation on these questions. Conversely, rising intonation on yes-or-no questions in the northern Middle West is used to express hesitancy or tentativeness, and *auslanders* who use it normally are considered to lack self-confidence.

Finally the question mark in writing and rising intonation in speech may be used to convert sentences that are not otherwise yes-or-no questions into yes-or-no questions. For example, "The boy hit the ball?" Such questions usually mean something like "Did you say that . . ." or "Do you mean that . . ." or even "Would this be an example?" In speech, rising intonation may also be used with questions that normally require falling intonation to convey a similar added meaning. Thus, "Who hit the ball?" with rising intonation may mean "Did you ask who hit the ball?" Since such sentences are already punctuated with

question marks, there is no simple graphic device that corresponds to rising intonation with them. To communicate the same meaning in writing, one must write something like "Did you ask who hit the ball?"

I hope this long excursion into the problem of how hearers and readers identify questions will have served to reinforce certain observations already made under the heading of correspondences between speech and writing. First the *question* is a linguistic form. In asking whether a person can read English, we want to know, among other things, whether he can identify questions from the clues he finds in writing, as evidenced by his use when reading of intonation patterns that he has already learned are associated with questions in speech. Second, it would be fruitless to try to make direct connections between punctuation and intonation, since such connections as exist, exist indirectly through the fact that both punctuation and intonation are devices employed in different ways to represent questions.

Let us consider now the third and final type of classroom problem brought up by the reading teachers—the relationship of the student's dialect to his progress in reading. We might begin by considering, in the abstract, the question of whether it is more difficult for students who speak certain dialects to learn to read than it is for students who speak other dialects. Surprisingly enough, it may well be.

The research results reported in my paper in *Highlights of the Preconvention Workshops on Linguistics and Reading* indicate that, with reference to 225 English monosyllables spelled with *a* or *o* and pronounced with one of the low back vowels, the fewest rules are required to convert the spellings into Standard British English pronunciation. Somewhat more rules are required to convert the same spellings into northern Middle Western English. The largest number of rules are required to convert these spellings into my own ideolect, which is formed from a mixture of dialects, basically South Midland. If similar results are borne out for other types of sound-letter correspondences, it would follow that (1) speakers of some "pure" dialects have an easier task learning to read than do speakers of other "pure" dialects, and (2) the child who has been exposed to many different dialects of English, as a result of which he has

formed a mixed ideolect of his own, has the most difficult task of all in learning to read. Whether the difference in difficulty is great or inconsequential would have to be determined by suitable psychological experiments.

Of perhaps greater practical consequence would be classroom situations in which one of two dialect situations prevail: (1) The teacher has a different dialect from the predominant one in the class; (2) A minority of the students have different dialects from the predominant one in the class. In the first of these situations, especially if the teacher thinks of the dialect of her students as substandard, she may have a tendency to correct reading that is already perfectly correct in terms of the students' own dialect. It is not necessary for me to take a position at this moment on how the teacher should, *at a later stage and in the language program,* deal with the problem of substandard dialects. The point here is that to correct students' pronunciation or grammar in connection with beginning reading is to confuse the students as to the nature of reading. The student who manages to convert written symbols into the speech of an aberrant dialect has probably accomplished a more difficult task than has one who reads the same passage with standard pronunciation and grammar.

In the second situation—that of students whose dialect is in a minority position in the classroom—all of the problems mentioned above are likely to be present and to be reinforced and compounded by the attitude of the majority of the class. It may take all the skill and patience that an experienced teacher can muster to overcome the problems inherent in this kind of situation.

LOCATING THE SWITCHING DEVICES OF ORAL LANGUAGE

ROGER W. SHUY
Center for Applied Linguistics

ONE OF THE constantly embarrassing aspects of a new concept in education is that we could kick ourselves for not having thought of it sooner. Of the attention given to social dialects in the elementary and secondary curriculum these days we can only say, It's about time. It is not now our purpose to agonize about why it has taken so long to give consideration to the factors which affect the oral language of our students. Rather it is to begin with the assumption that it is good for some students to command at least two social dialects, then discuss the ways we can help them switch from one to the other.

But first the assumption. The term *functional bi-dialectalism* was proposed at the Indiana University Conference on Social Dialects and Language Learning[1] as a way of identifying a person's legitimate right to continue speaking a "home dialect" (one which might be called nonstandard) even after he has learned a "school dialect" (one which might be called standard). As is evident from the way definitions of *standard* and *nonstandard* have been sidestepped in the preceding sentence,

[1] The proceedings of this conference have been published by NCTE in a book called *Social Dialects and Language Learning*, ed. Roger W. Shuy, 1965.

these terms are very difficult to pinpoint when society is seen as a whole. Having been a teamster, for example, I know that standard truck-driver English varies significantly from standard English teacher language. For a while I held jobs as teamster and English teacher at the same time; I learned by necessity to switch from one identity to another almost at will, and included in this identity switch was considerable language switching. In short, I was functionally bi-dialectal or, more euphoniously, biloquial.

Although it may be true that a conflict still exists between some educators and linguists concerning biloquialism, there seems to be little conflict among the linguists. Some teachers still feel that it is their job to eradicate substandard speech. On the surface, this assumption seems sound—even humane. But a closer look will demonstrate that communication requires an effective relationship between hearer and speaker within a clearly defined social framework. In some cases, the social framework has linguistic requirements which vary from the linguistic requirements of a different social framework. If the speaker uses the wrong linguistic requirements, he runs the risk of communication breakdown or, worse, social breakdown. At any rate, most linguists agree that a speaker of any language will make linguistic adjustments (mostly unconscious) to specific social situations. These adjustments may be in pronunciation, vocabulary, grammar, or syntax. They may range anywhere from the obvious adjustments between adults and four-year-olds to the more complicated sociolinguistic switching from school to home or playground to school. At any rate, the job of the teacher is not simply to eradicate playground English or home dialect.

Recent work in sociolinguistics has added further dimensions to the notion of biloquialism. We now know, for example, that people engage in style shifts within or across social dialects. A sudden shift in subject matter, for example, may bring about emotional overtones causing phonological or grammatical shifts. The following example will illustrate this principle. The speaker is a twelve-year-old Negro Detroit boy whose father has overcome tremendous obstacles to become a successful police administrator. The family is upwardly mobile even though they live in a lower middle class community (a fact which is not sur-

prising in terms of current residential segregation patterns in America). The boy's speech is neither noticeably lower class nor Negro throughout most of the interview, suggesting that his home language and, perhaps, his friendship group language are somewhat similar. When we asked him a question which involved him emotionally with school, however, he shifted social dialects quite vividly, as we shall see:

> . . . But sometimes when I want to do some procrastinating, I go out to the playground and swing around the swings or walk down to Hamilton and get an ice cream cone. Nothing much. *Fieldworker:* Did you ever have a teacher who hollered a lot? *Child:* Gosh, I have one that always hollers at me. *Fw:* About wh— *C:* Sometimes we think she's absolutely crazy. She come in the classroom she be nice and happy, she never have a smile though cause she be nice and happy . . . the next minute she be hollering at us for no reason, she'd be giving us a lectures on something that happened twenty years ago. And we have another one that will, that's not like that, she at least wears a smile some of the time but she does holler.

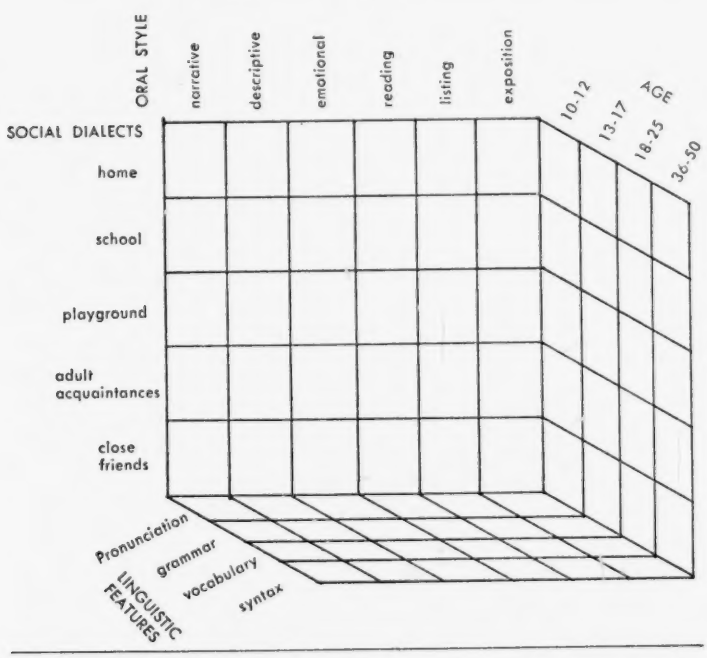
At no other time during the ninety minutes our fieldworker spent with this boy did he use these grammatical forms again. Whether his use of "she come," "she be nice," "she never have a smile," and "she be hollering" is considered a lapse or a systematic shift, the fact remains that there is an associated social situation which apparently correlates with certain linguistic features which can be identified with a known social dialect.

There are clear implications of this information for English teachers. First, there are a number of different social dialects, each of which has acceptability within the sphere of its influence. Second, one speaker may use several different social dialects (or parts of these dialects) on different occasions, dependent on such nonlinguistic phenomena as his emotional involvement, his real or conceptualized audience, his intention, his understanding of stylistic requirements, and so forth.

If we are willing to accept the speaker's need to switch social dialects for different situations, then we must discover not just the items which characterize social differences but also the process by which this switching takes place. These processes can be referred to as switching devices. They are described linguistically

in terms of rules which convert one system into another. They are highly complex in terms of the social matrices which give birth to them. The three-dimensional matrix in Chart 1 may be illustrative of part of their complexity.

Chart 1



Each cell in the diagram is to contain a well-defined set of rules governing pronunciation, vocabulary, grammar, and syntax for that cell. There will be considerable overlap among the rule sets of the cells. The differences, however, are of major importance; though they may appear minute in quantity, they are important in quality. It must be noted, further, that the differences may be matters of degree rather than inclusion or exclusion. That is, a person who uses multiple negatives may do so more frequently in emotional or narrative style than in reading or expository style. William Labov at the Indiana Con-

ference cited evidence of this sort for New York informants.[2] The difficulty with this or any other pictorial representation of the situation is that not enough dimensions can be pictured at one time and that the categories are probably overgeneralized. The preceding figure might be labeled with further social and geographical identifiers such as "Detroit Inner City Southern White In-Migrant" or "Detroit Foster School Area Negro." At this stage, however, labels are often capricious if not dangerous, for identifications such as "Negro speech" or "lower class speech" assume that such phenomena exist before they are identified. At any rate, the complexity of identifying the social dialects of English, as well as the switching devices, is becoming more and more clear.

The Problem of Research Design

The question, then, is this: How can these switching devices be discovered? Theoretically we must begin either with intuitive knowledge of the various social dialects or with the data of linguistic performance. Since the former, having been used unknowingly by teachers for many years, has been notably lacking in both efficiency and accuracy, the only feasible way to come to grips with social dialect and style switching is through actual data. Chomsky puts the case well when he observes, "The problem for the linguist, as well as for the child learning language, is to determine from the data of performance the underlying system of rules that has been mastered by the speaker-hearer and that he puts to use in actual performance."[3]

Linguists interested in the problems of social dialects and dialect switching have not been in agreement concerning techniques of obtaining data of this sort. Immediate reactions may tell us first to study carefully the social dialects of people whose social dilemma is greatest. Ongoing research in New York, Washington, D.C., and Chicago is taking this approach. But sociolinguistics is not yet so well developed that it can identify the obverse of the disadvantaged subculture. If we are to point to those whom we consider most needful of an upward direction,

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[2] *Ibid.*, p. 83.

[3] Noam Chomsky, *Aspects of the Theory of Syntax* (Cambridge, Mass.: MIT Press, 1965), p. 4.

must we not also identify which way is up? Is it indeed clear just exactly what acceptability means in our society? Does it always mean the same things? Furthermore, even if it is decided that the most needy should be studied first, problems arise as to how informants are to be selected.

It is the contention of the researchers in the Detroit Dialect Study[4] that useful statements about social dialects and style switching can best be achieved by gathering data from a cross-section of Detroiters of different age, sex, race, ethnic group, geographical origin, and social status. This is not the place to describe details of the design, but let it be said that the corpus for this study now includes 700 informants ranging in age from nine to ninety, randomly selected from ten areas of the city. Since our major concern was with social dialects and dialect switching in school-aged children, we have a large proportion of informants from that category. But our concerns for matters of language change, parental influence, and other things influenced us to include adults as well.

The Problems of Fieldwork

Conducting linguistic fieldwork has not been a large concern of the English teacher in the past, but, since he will have a rather important role in the outcome of sociolinguistic research, it is well that he know something of this procedure. In our search for the switching devices of oral language, fieldwork can be crucial to success or failure. Optimum fieldwork would provide unbiased language data representing the speaker in a number of social situations and styles. In reality, linguists cannot totally hide the tape recorder, the artificiality of the interview situation, their inability to provide a series of social situations, or the small amount of time that they dare spend or that informants dare give. What is hoped for is the best performance possible under these conditions. The rules of the game require a face-to-face gamble using the tools of honesty, genuine interest in the speaker, good equipment, judicious questions, eye contact,

[4] Under cooperative research of USOE (Project No. 6-1347) and Michigan State University. Part of this research has been published: Roger W. Shuy, Walter A. Wolfram, and William K. Riley, *Field Techniques in Urban Language Study* (Washington, D.C.: Center for Applied Linguistics, 1968).

salesmanship, and an ability to say as little as possible to get the informant to say as much as possible. The prejudices of specific fieldworkers can be minimized by having a number of linguists do the work.

The Problem of Analysis

Analysis of a corpus of speech data is the final stage in the location of the switching devices of oral language. Having achieved a representative sample of the speech of informants representative of the various subgroups of the population, the next step is that of discovering the indices of social stratification and noting them in the various styles found in the corpus.

It would be encouraging indeed if we could report that the computer can solve the tremendous problem of analyzing the data gathered in such research. However, such is not the case. We are currently using a specially written computer program to provide three-dimensional automatic displays of one kind of phonological data, but this aids in only a small part of the problem.

Significant work in the search for linguistic indices of social stratification has been done recently by William Labov of Columbia University. His identification of indices of standard English in New York City provided an empirical model for other work of this type.[5] Previous research on New York City speech had provided clues to the sorts of indices that might be found, and in this way the research had a distinct starting advantage over areas in which little linguistic analysis had been done previously.

The Detroit research, for example, had no such beginning point. At the end of the eight weeks of interviewing, the twelve linguists had a fairly clear idea of potential indices of standard English based on phonology and some rather solid guesses of the grammatical ones. But there was no clear way to estimate, at this point, where to begin searching for syntactical indices of social stratification.

Since analysis of urban speech in other cities will be likely to parallel that of Detroit (little or no previous research) rather

[5] William Labov, *Social Stratification of English in New York City* (Washington, D.C.: Center for Applied Linguistics, 1966).

than that of New York, it is useful to describe briefly the approach currently being taken in that city.

To begin with, the three kinds of data in this study can be labeled *free text* (responses to questions designed to stimulate description, opinions, retelling of stories, etc.), *single responses* (brief answers to questions designed to elicit one- or two-word responses), and *oral reading.*

The single responses are being coded for computer analysis so that phonological correlates of social status, age, race, and so on can be easily noted. Once discovered, these indices will then be searched for in the free text styles as well as in the oral reading (of course, any other indices discovered in free text or oral reading will also be searched for in single response materials). Currently, our researchers are using free text to study several potential indices including the substitution of nasalized vowel for final consonant in words such as *ban, can,* and *Sam.*[6] Another phonological index currently being investigated includes the contrastive production of final consonants and consonant clusters, the fronting and raising of the lower front and central vowels, the /ɪ/~/ɛ/ collapse, certain medial consonants, vowel glides, and syllable addition and deletion.

Grammatical indices of social stratification are much more difficult to discover. Part of the problem stems from the inability of fieldworkers, no matter how good, to elicit grammatical data systematically. Once we have asked for the past tense of a verb, we have put the listener on guard to find the correct forms. Even the frame technique is not very subtle: "Today I swim, yesterday I _____." Consequently when one looks for grammatical indices in free text one cannot insure that specific indices will be represented. In the second place, some of the indices do not readily lend themselves to statistical computation.

But whether or not we can be sure that a grammatical item will ever occur, we have no recourse but to search for grammatical indices in free text—in the descriptions, stories, and opinions of our informants. To get at this data, we had typists listen to the tapes and type, in normal orthography, exactly

[6] For an analysis of this feature see Shuy, Wolfram, and Riley, *Linguistic Correlates of Social Stratification in Detroit,* Final Report (USOE Cooperative Research Project 6-1347, 1967).

what they heard including false starts, sentence fragments, grammatical errors, and verbal mazes. We included the field-workers' questions and other responses as well, for it may be that a person's grammar echoes that of his questioner. Once the typescript is finished, it is checked against the tape by a linguist who notes errors and makes corrections. It is then retyped on stencils and cut into slips for filing.

At this point two kinds of analysis begin. The grammatical index analysis begins with a search for potential indices postulated on the basis of an educated hunch. Such indices currently being investigated include negation, the verb *to be*, pronominal usage, actor-participant introduction, and number concord. It should be pointed out that the occurrence is computed in terms of actual and possible occurrences. That is, each occurrence of double negatives is computed against each potential occurrence of a double negative (i.e., a single negative). Ultimately, of course, the determined ratio of double negatives to potential occurrences will be computed in relationship to age, social status, style, sex, geographical origin, and so forth.

A second type of grammatical analysis is also currently under way. In it, a file slip is made for every occurrence of every phrase type, clause type, and sentence type of the interview. Once this sort of analysis is done for a sample of our population, we hope to be able to say something about the kinds of oral syntax used by people of different social status. Further analysis will reveal the kinds and amounts of such syntactic features as embedding and various kinds of transformations in the oral language of informants representing different ages, social groups, and so forth. Our research is not sufficiently advanced at this stage to indicate any potential indices in this area. On the other hand, it is possible to give a bare idea of the sort of evidence we hope to reveal. Chart 2, for example, showing data on a thirty-one-year-old female Negro with tenth-grade education whose husband works as a janitor, indicates that she uses 5.9 percent appositional phrases in a given sample of 393 speech phrases. It will be useful to discover whether informants of other socioeconomic, age, or ethnic groups use significantly differing percentages of appositional phrases.

Chart 2

Frequency of Phrase Occurrence

Phrase	*Number*	*Percentage*
1. Simple non-prepositional (my friend)	198	50.4
2. Simple prepositional (in the basement)	110	27.9
3. Appositional (my friend, Henry)	23	5.9
4. Coordinate (my mother and her friend)	22	5.6
5. Relative (the boys who are home)	40	10.4

We are also investigating quantitative differences between speakers with regard to frequency of such constructions as relatives and coordination, ratio of relatives to appositionals, relative frequency of *wh-* relatives as opposed to *that* relatives or zero forms, use of conjunctions in serial coordination, and frequency of certain types of transformations such as nominalization, permutation, and deletion. All of this, of course, takes time, and it is hoped that English teachers will be patient as the information slowly emerges.

Summary

It should be clear by now that it is no simple job to locate the switching devices of oral language. The rules which enable a speaker to shift from one social dialect to another or from one style to another must be discovered by means of a painstaking analysis of data, whether empirical or intuitive. We know far too little about oral language to pontificate on what is good or bad—or even on what is the same or different—without a much more rigorous analysis of the sort outlined here.

Our profession has been handicapped by a monolithic view of our task and an inadequate analysis of our problem. The task is not to eradicate the social dialects which are inappropriate in the classroom. On the one hand it is an uneconomical use of

time to approach our job as classroom manifestations of the Bonnie and Clyde syndrome; on the other hand it is dangerous to deprive our students of a channel (perhaps the only channel) of communication with people with whom they live. Perhaps no other profession has spent more time on negatives (spelling demons, jargon, triteness, and seven deadly grammatical sins) and less on positives (alternate styles, alternate appropriate social dialects) than has the profession of English. It has seldom occurred to teachers that students may need to switch from schoolroom English to playground English as well as from playground to schoolroom. We cannot legislate virtue, no matter how we define it. But we can and must provide the linguistic alternatives.

ORAL LANGUAGE AND LEARNING

WALTER LOBAN
University of California, Berkeley

FOR MANY REASONS oral language has been slighted in education. First of all, when children come to school they do not need to be taught to speak as they need to be taught to read and write. Even if teachers sense uneasily that improvement in the spoken word influences learning in other matters, they are puzzled concerning what measures to take, and curriculum guides seldom cope adequately with the problem. Class size also discourages teachers from emphasizing oral work; individual speeches and book reports consume appalling quantities of time; group and classroom discussions prove highly complex so that improving them is a baffling experience. Most important of all, oral language is disregarded in evaluation; it appears neither in achievement tests nor college entrance examinations. And, inevitably, instruction shrinks to the boundaries of what is tested: "Give me the power to evaluate, and I will control the curriculum."

But recently, in both the United States and Great Britain, some teachers with inquiring minds have begun to question this neglect. Noting the linguists' insistence on spoken language as the living language, facing the obvious fact that no writing or reading exists without first a spoken language, these teachers have begun to note that outstanding readers and writers among

their pupils also have a way with words when they speak—an observation not discredited by an exceptional child who compensates for spoken inarticulateness by increased reading and writing skill. Power with speech usually belongs to those who have a healthy self-respect and are well rounded in all the arts of language. Teachers wonder: Would improvement in spoken language form a base for more impressive accomplishments in reading and writing?

In the United States, as a result of classroom experience and recent research, interest in oral language has been renewed. Four influential organizations have recently cooperated in an unprecedented undertaking, a joint statement on the importance of speech to the whole of education. *Children and Oral Language* (Joint Committee, 1964) stresses the interdependence of language and thought, pointing out that those with power over spoken language are better able to make distinctions, modify ideas, handle emphasis through subordination, and control unity through transitions and arrangement. Such powers cannot be gained through drills and exercises. Thought—and its competent expression through spoken language—flourishes best in situations where learners are deeply involved and genuinely concerned.

In American research the linkage between oral and written language has also been affirmed. Pupils ranking high in silent reading comprehension and in oral reading interpretation prove to use fewer short oral utterances, and those expert in silent reading show more verbal dexterity and flexibility with the syntax of spoken communications. They are also the ones who more frequently express tentativeness through statements of supposition, condition, or concession; they use more analogies and generalizations; they excel in coherence through subordination of all kinds—nonfinite verb phrases, prepositional phrases, absolute constructions, and appositives, as well as dependent clauses (Loban, 1963, 1966a, 1966b; Strickland, 1962). All this confirms what observant teachers point out from classroom experience. Children, especially the less verbal children, need many oral experiences before they read or write. "The quality of children's writing can be little different from the quality of the oral

language they use'' (Burrows, *et al.*, 1964). The same may be said for reading.

In education in the British Isles, where imaginative power has recently been emphasized more than in American education, drama is frequently used to foster growth in oral language. Pointing out reasons for placing drama near the very center of the curriculum, Whitehead (1966) notes that through it pupils ''extend the range, fluency, and effectiveness of their speech; under the stimulus of an imagined situation words move from a passive recognition vocabulary into active use.'' He sees drama as a creative activity involving the whole personality, a vital imaginative experience enlarging the child's understanding of other human beings. ''In general we may say that in drama . . . the main task of the teacher is to help the child move in his acting towards a keener grasp of reality (the reality of human speech, behavior, and emotions) by stimulating livelier and more accurate imagining.'' Another group of British teachers (Wilkinson, *et al.*, 1965a, 1965b) point out that the spoken language has been neglected in English education. They protest against formal speech training as too distant from the approach that is really needed, an approach designed for the average citizen rather than for a speech specialist.

All this preoccupation with oral language as the base for successful writing and reading—leading ultimately to appreciation of literature and to awareness of language as a means of putting order into all of living—all this depends upon whether or not any transfer takes place. What is learned about speaking must have some valuable carry-over to writing and reading.[1] Here it is important to remember that learning equips a pupil with broad patterns of behavior rather than one-to-one relationships, that much of the waste in education results from workbook drills on details never consolidated into a comprehensive pattern. Let us look at some examples: the ability to *write* complete sentences or to *read* complicated sentences (using, for instance, appositives or other interpolated material between

[1] I do not wish to be misunderstood; I realize writing and reading have conventions and domains of their own. That they cannot be acquired successfully without a base in oral language is my point.

subject and predicate) will be initially learned from speaking such sentences or from listening to someone else speak them. Diagraming sentences or learning grammatical principles will never do for the larger reality; awareness of the patterns of sound linked to thought will transfer to writing and reading much more effectively than one-to-one items in drill. Sensitivity to standard usage is a deep pattern of attitudes and skills: concern that others will receive one's communication without distraction; a distaste for sloppiness and, therefore, distaste for whatever violates grammatical concord; relaxed self-respect that permits one to speak easily and naturally with attention focused on ideas. Teaching the skill of *they were* (instead of *they was*) is useless if the skill is not embedded in a total pattern of sensitivity to communication. A teacher who achieves a classroom where involvement, thought, and discussion prevail finds that time for drill can be reduced. Involvement, sensitivity to others, clarity of thought, and self-respect—these are what transfer, carrying with them the dependent components of appropriate usage.

The concept of transfer raises an unresolved issue. Does a learner benefit from conscious identification of goals in oral language? Many teachers assume so. They stress the idea of economy of endeavor; they believe that helping learners become aware of goals appropriate to their stage of oral language development can be accomplished without permanently disturbing the basic unselfconsciousness essential for ease and naturalness of speech. These teachers believe it possible to prevent learners from marking time in blind alleys of endeavor or accidentally forming habits which delay speech development.

Yet the issue is puzzling and far from resolved. Other teachers believe that "Judiciously providing challenges will promote development," and they fear the school will promote a language self-consciousness upsetting to the naturalness of speech. They would place much greater emphasis upon building the child's self-image and offering him opportunities for success in speech situations focused upon communicating material to someone he very much wants to interest. The child's delight in speech and his desire to use it effectively will outweigh, infinitely, any attempts to focus his mind upon how he talks. Explicit attention

to improvement will accomplish nothing that would not develop naturally within genuine and varied communication experiences devised by the teacher.

Until we have more solid knowledge on this issue, we must select as reasonable a path as we can. Very likely the truth will prove to be some combination of the two positions. This writer believes an effective teacher does both tasks, devising a wide variety of situations for natural informal talk and focusing attention on how improvement is possible. Many situations will emerge spontaneously from the interests and life of the classroom. Most will rise from drama or informal talk in small groups; others will take the form of round table or classroom discussion, still quite informal; and only a very small number will involve individual presentations before the class.

Nevertheless, for economical learning, the pupil must become aware of important rhetorical goals: the strategies of emphasis, the skills of exemplifying and generalizing, the importance of unity and relevancy. In the elementary years of schooling, pupils should merely be unconsciously aware of such goals, but in the secondary years the goals could become increasingly explicit. Selecting and learning the behaviors leading to these goals can be made more economical through teacher guidance, through models, and through motivated experience. The process is one of establishing goals the child understands and accepts. Teachers will need, of course, to have knowledge about language maturation and child development in order to avoid introducing goals too early or too late. The teacher's assistance refines and sharpens the learner's own observations and strategies for improvement.

Some ways oral language may be interwoven with other elements of the language program are suggested in the practices which follow. Though in their present form these suggestions do not carry all the implications, all the richness they would have in actual classrooms, they do illustrate the practices of teachers who believe in the linkage between spoken language and other parts of communication.

With Writing

. . . Encourage pupils to write dramatic skits, act out what they

have written, and revise this written form to as much perfection as possible.

. . . Show pupils how to read "jabberwocky" meaningfully; then help them transfer the skill to reading their own compositions.

. . . Expand skeletal sentences on the board, e.g., *The coyote ate,* using modification, compounding, cumulative clustering. The pupils read aloud, using vocal signaling to show meaning, then transfer the experience to their own writing.

. . . Establish in pupils the habit of looking back over their writing, of hearing with an "inner ear" how it might sound to another reader. To develop this "inner ear," each pupil reads aloud his own writing. This device helps young writers become more aware of ambiguities awkward expressions, monotony of word choice and sentence pattern. Teachers may foster this habit in different ways:

. . . Allow class time, before compositions are handed in, for each pupil to reread his work in a quiet voice.

. . . Provide an audience by placing students in small groups or pairs to read their compositions.

. . . Encourage each pupil to read into a tape recorder, then listen to his own voice as he follows his written form. In judging the style and tone of their own work, many writers find the ear a more reliable guide than the eye.

. . . Keep model sentences on the chalkboard: cumulative sentences, compound and complex sentences, sentences with appositives, infinitive clauses. Read these aloud and discuss them. Have pupils choose model sentences from their own writing and place them on the chalkboard.

. . . Teach manipulation of sentences; some elementary teachers begin by writing, each on a separate placard, the words of interesting sentences; then the word placards are distributed to pupils who come to the front of the room, arranging themselves according to directions from the class. Various alternatives of arranging the syntactical elements are tried for each sentence; the sentences are read aloud with various

intonations and emphases. This exercise is then followed by similar seat work with words written on smaller cards. Pupils are encouraged to apply this manipulation to their own writing, using speech to test the various ways of arranging their own sentences.

With Reading

. . . Let initial reading instruction be a matter of helping the child make a transition from oral to written language efficiently and successfully, stressing the inductive learning of *regular* phoneme-grapheme patterns. Do not completely avoid irregularly spelled words but deemphasize them during this phase, the language experience approach to reading. Later, exceptional words can be introduced in a controlled and gradual manner. At the beginning of reading, however, problems of word recognition should be reduced to a minimum. When children learn words, the words should be used orally in phrases and sentences so that pupils become alert to the ways the words *sound in the larger intonational setting.*

. . . When he begins to read, the child should clearly see reading and writing as the reproduction of spoken language. This implies that beginning reading will use the dictation of children's language, both in individual records and in group experience charts. Sylvia Ashton-Warner (1963) and R. V. Allen (Lee and Allen, 1963) have described these methods fully enough for us to adopt them in our schools.

. . . Children should do much oral reading with the idea that they are to make their voices express the ideas just as they are when spoken naturally. For teachers, parents, and children to remain content with the sing-song, colorless chants so often miscalled "reading" is dangerous. To be sure, a child may have to read silently, even practice aloud, before reading the living sound of language.

. . . Because children usually read aloud with a lack of meaningful intonation, tell them, "Good, first you need to be certain you recognize all the words. But *now* put the words together and read them as they should sound when you are speaking naturally."

. . . Let pupils take turns reading drama aloud. Strive for naturalness of tone, an imparting tone enhancing the meaning of the prose. (First let pupils read the material silently.) Be sure the listening situation is motivated for such reading.

. . . Read sentences with varying patterns of intonation. The pupils imitate the teacher's pitch, pause, and stress. Apply the exercise to some functional use.

. . . Let poor readers listen to tapes of easy reading books as they follow the printed form with their eyes. The tapes should present skillful and powerful readings by expert trained voices.

. . . Older pupils prepare an oral reading of children's stories. They go to the primary grades to read aloud such books as *The Camel Took a Walk* or *The Little White Rabbit Who Wanted Red Wings.*

With Usage

Usage represents the established oral language habits of an individual. Internalized by the child as he hears and imitates the speech of home and neighborhood, it is not a deliberate plan rationalized on a conscious level. It is quite different from grammar. Most of us can say "I want him to be my friend" without knowing *grammatically* that *him* is the subject of an infinitive, that the subjects of infinitives, quite illogically, are in the accusative rather than the nominative case. We can transform "A catcher's mitt was given to *him*" into "*He* was given a catcher's mitt" without recourse to grammatical knowledge. It is usage, not grammar, that all of us depend upon in such sentences—and in millions of other sentences we utter. Just as we learn to develop our usage through the ear, so too, if standard speech is to be learned, the way will be oral, through the ear, not through drillbooks or any version of grammar.

Grammar, the fascinating and careful analysis of the structure of a language—its sound structure, word structure, phrase and sentence structure—is too complexly indirect to help much with usage. Whenever usage learning occurs, the learning should be based upon oral methods, either repetition after the teacher (but only by those in the class who need the help—the others

should be excused) or repetition from tapes similar to those used in language laboratories. The pupil must *hear* and *say* the standard form; he must not fill in blanks, underline printed forms, or memorize principles.

In societies organized for stability through caste and class, language has always been a major means of maintaining the status quo. Even in a fluid society such as ours, where individual worth and aspiration are intended to count for more than fortunate or unfortunate birth, language still operates to preserve status distinctions and remains a major barrier to crossing social lines. On attitudes concerning language, teachers can learn much from sociology: "We fear lower class speech and are inclined to give it no quarter. The more precarious our social status in the higher classes—that is, the closer we are to the line that divides the middle from the lower classes or the more recent our ascent from the lower strata—the more insistent we are on the purity of our linguistic credentials" (Cohn, 1959).

Realizing that human worth cannot be measured by the language or dialect a man uses, teachers will be more likely to help children acquire a standard English without making them ashamed of their own language. Such acquisition—not "improvement"—is easier in situations where drill and directed efforts are oral, where they are linked to language expressing ideas, attitudes, and values of genuine concern to the learners. To improve language ability a pupil must apply whatever is studied to situations in which he has something to say, a deep desire to say it, and someone to whom he genuinely wants to say it.

. . . Present usage drill only to pupils who need a certain skill, such as "It doesn't" for "It don't." Drills are either taped or read aloud by the teacher; pupils listen, after instruction, in order to classify sentences as standard or (a few) as nonstandard.

. . . Waste no time on such divided usage as *It is I* or *It is me; Who are you looking for?* or *For whom are you looking?* At most, such items should be noted as examples of how language changes and is changing. Spend time gained on more significant items, such as *He don't, He brung it.*

With Literature

With improvements in tape and phonograph recordings and the widespread use of radio and television, the art of the spoken word is resuming its proper place in the culture.

. . . Read literature aloud to classes, first practicing in order to enhance both the meaning and the esthetic beauty of literature.

. . . Have pupils record drama and poetry as well as passages from novels, linking the passages by commentary or musical transition. Occasionally, for the poetry tapes, select appropriate musical backgrounds.

. . . Develop units of instruction dealing with the miracle of language; enjoy the fun of language; inquire about its nature and structure.

. . . Examine in the secondary school the sociology of slang, standard and nonstandard dialects, geographical language variations, and the special uses literature imposes upon language.

. . . Assign, in upper grades and secondary school, group work in which pupils bring to class a passage or poem they consider powerful and have practiced reading aloud in private. The group selects several passages to be presented to the class.

With Listening

. . . Listen to tapes or recordings of expert speakers, artists like Julie Harris, Marni Nixon, or Alexander Scourby, readers whose skill with intonation is superb. Discuss and imitate.

. . . Some children like to talk through a "window" or a "TV screen"—mere frames to serve the imagination, but they help the child feel more secure. Tape the presentations of a few window talkers and play them to the class, praising something in each one.

Practices like these can best aid the pupils' expression when individuals or small groups with similar problems are helped to see how their own expression can be improved. This instruction takes the form of identifying elements which strengthen or

weaken communication, increase or lower precision of thought, clarify or blur meanings—always in the context of improving one's own communication in situations where communication is important. Such methods are not easy to achieve in some school situations, and all education has a long way to go toward making communication important to pupils. But attention to the formal elements of language at the expense of motivated communication is a dangerous outcome of much well-intentioned instruction. Equilibrium is crucial; the teacher walks a road as narrow as a razor's edge, with a deep ditch on either side.

Many teachers believe there is no hope of establishing a successful program in reading or writing without an adequate base of oral language development. One who did emphasize this necessary base, this linkage of ideas and oral language, has been described by her former pupil, John Steinbeck (1955):

> She aroused us to shouting, bookwaving discussions. . . . Our speculation ranged the world. She breathed curiosity into us so that we brought in facts or truths shielded in our hands like captured fireflies. . . . She left a passion in us for the pure knowable world and me she inflamed with a curiosity which has never left me. . . . She left her signature on us, the literature of the teacher who writes on minds. I have had many teachers who told me soon-forgotten facts but only three who created in me a new thing, a new attitude and a new hunger. I suppose that to a large extent I am the unsigned manuscript of that high school teacher. What deathless power lies in the hands of such a person.

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